#### Native and Naturalized

# Utah Mountain-Prairie Plants

Their uses in food, medicine, ecology, and the arts

by Charles Hathaway

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### Introduction

There's a poisonous plant that's quite common in yards all over North America, even all over the world, and maybe you even have it in your yard. It's Latin name is Solanum lycopersicum and it's a member of the nightshade family (some of you may have heard of deadly nightshade, a less common cousin of Solanum lycopersicum if you ever experience the following symptoms, you may be a victim of this common plant's poison:

Abdominal pain

Nausea

Vomiting

Diarrhea

Headache

Dilated pupils

Slowed pulse rate

Loss of sensation

Slowed breathing

Not the kind of plant you would usually consider eating. In fact, it sounds like the kind of plant that ought to be weeded out with gloved hands and gas mask the moment it shows it's 6rst leaves. The good news is, the only parts of the plant that include such poisons are the leaves, roots, stems, buds, 70wers, and unripe fruit.

Wait, isn't that the whole plant? What's left? The ripefruit. If you eat the ripe fruit, you may 6nd it quite agreeable—even useful in meals. Don't eat any other part of the plant enjoy the fruit.

Now, if you're like most people, your response may be, "No way. I'm not eating something with such poisonous potential." And I don't blame you for feeling that way. But I should mention that you may have actually eaten it before. The common name for Solanum lycopersicuintomato.

Unless you're a gardener, you probably rarely see the leaves, roots, stems, buds, 70wers, and unripe fruit of the tomato.

Food doesn't come from a store. It lives out the better part of it's life in some sort of garden. Only later is it cleaned up, trimmed, packaged, and sent for a brief visit to the store during it's ripe period, at which time you 6nd it on the produce shelves. Or perhaps it is bought, cooked, mixed with other ingredients, and canned—and then placed in the store.

We all know food doesn't originate in a store. But the point is when we start looking at our food from the perspective of it's origins, something changes. No longer is the tomato a fruit/vegetable from the produce market. It's a living organism with both dangers and bene6ts. It has risks and multiple uses. It can be dangerous if eaten wrong. If I had a visitor from a country that has no tomatoes, and I pointed to a tomato plant and said, "Oh, you've got to try this!" and he reached down, plucked a branch, and chomped it like spinach, we could have a problem.

You know not to do that because you've eaten tomato all your life. But all it takes is a little instruction—"Pick one of the ripe red fruits from that plant and eat it," and our friend will discover a new favorite staple food he'll want to take home to his family.

Most people know that home-grown foods taste the best. What few people know is that the unintended wild plants growing in and around their gardens are also home-grown food, and most of it is closely related to the garden plants they're favoring.

When I point to lambsquarters in people's yards, and tell them they can eat that, they usually crinkle their nose and say, "Really? I always weed that stuCout," and when I challenge them to try it, they say something like, "Uh, no, I'm okay. None for me."

I realized one day one of the reasons they're reacting this way. It's a mental framing issue.

I enjoy beef steak. Most people do. Now, if someone held out a plate of fried grasshoppers to me and said, "You can eat this," I'd probably say, "Uh, no, I'm okay. None for me." But if they held out a fried bison steak and said, "You can eat this," I'd probably be excited to try it. Why? Because I know bison are close relatives of cows. If I like beef, I'd probably like bison.

When I point out the edibility of lambsquarters, many people see the botanical equivalent of a bug, because they have no idea that lambsquarters is as closely related to spinach as bison is to cows. (Plus lambsquarters isn't an endangered species!)

If you like eating pork, you'd probably enjoy eating wild bore. If you like eating parsley, you'll probably like eating 6laree. The diCerence is, lambsquarters and 6laree are in ridiculously greater abundance than bison or bore, and you probably have a good crop of them growing in a neglected corner of your yard.

When you hear the suggestion to try eating a wild plant, remember, this isn't a botanical bug—it's the wild relative of something you already eat.

The cool thing is, plant uses aren't limited to food. I don't think it would be a great shock to most people to learn that Native Americans used various wild plants for art, clothing, furniture,

paint, dyes, personal hygiene, and of course, medicine. What may be surprising is that so much of that knowledge is still available and useful to us today. In fact, there are uses of plants taking place today that weren't available to Native Americans. For example, did you know sugar beets can be used to make ethanol to run a car? Just imagine what it might mean if some enterprising botanist engineer 6gured out how to take a wild invasive cousin of the sugar beet (such as kochia, 6ve-horn smotherweed, or once again, lambsquarters) and learned to make fuel out of it. A car that runs on weeds!

But the only way something like that will happen is if we as a society begin seeing the wilderness in our own yards as something more than disarray.

The truth is, every element in an ecosystem has multiple purposes within that ecosystem, and each of those purposes can be utilized for bene6ts outside of that system as well. The biggest reason most of us aren't using the abundance around us is that we don't know it's there. We don't know what dandelions do. We don't know their health bene6ts, their medicinal potential, their use as a natural coloring agent or as bird food. We don't even seem to know that their very presence strongly supports and bene6ts other vegetables in a garden. So what do we do? We pick them and throw them away. Or worse, we spray them with poison, which kills the plant, it's neighbors, and it's pollinators, and we wonder why our intended plants are struggling so much.

My point in talking about this is to reframe your mindset and see the good in what is already at your disposal. Did you know your yard already has everything it needs to produce a wildly abundant food and medicine supply?

Never remove an element from your landscape without 6rst learning it's bene6ts and uses. And, of course, like the tomato, don't use anything for food or medicine before 6rst learning it's dangers.

In this volume, I've tried to provide a basic rundown of each plant's known uses, as well as its risks or dangers.

A good rule of thumb for eating anything edible that you've never tried before is to start small, and increase quantities over a period of weeks. The main reason for this is to ensure that you aren't allergic to it. If you have an allergic reaction, don't eat any more. Another important rule is to be sure that you've correctly identified the plant you're about to eat. Many plants have poisonous look-alikes, so make sure you're certain before you eat.

Another point I'd like to make is that tastes are acquirable. Remember the old saying, "It's an acquired taste?" People usually say that to mean that they don't like the 7 avor of something. But those who have acquired a taste felt the same their 6 rst try—whether as a baby, a child, or an adult. Taste something enough, and you'll probably come to like it. If your 6 rst taste of an edible weed in your yard is horrendous, you'll probably never like it. But if it's mildly tolerable, and you eat it once a week, then in a few weeks or months you'll not only tolerate it, but probably learn to like it better than most of the stuCyou've already acquired a taste for.

Why would that be? Why would we grow to like the taste of wild local foods morethan non-native produce-market food? The answer is actually kind of cool. Things that are really good for you tell your body and brain just so. As your brain and body develop the association between this strange new food and the incredible bene6ts being provided, your brain reprograms your tastebuds, and your body begins to crave it.

There is also a regional eCect that, while more subtle, shouldn't be ignored. Food grown on the very site where you live is subject to all the environmental and climatic in juences that you are. Such plants adapt to that climate in unique ways, and as generation after generation create new adaptations (as every weed in your yard has already done), the plant develops properties that become increasingly bene6cial to local life.

Let me give an example. Some people who have seasonal allergies have found that eating locally raised honey reduces their allergic severity. Why? Because they're eating sweetener that comes from bees that made honey from the local pollen that is creating their allergic reaction. But wouldn't that make it worse? No, because the digestive system (which is not the respiratory system where pollen is breathed), draws out nutrients that help inoculate the body against potential dangers in the local atmosphere. Basically the honey acts as a mild vaccine against pollen allergies.

This kind of eCect happens constantly in nature. Eating plants that are drought hardy can help the body develop better hydration. Eating local bitter herbs can act as a tonic to prepare the body for digestion.

Finally, using local wild plants makes you part of the ecosystem, rather than an exception to it. As you make positive use of what grows around you, you naturally return to protect, nurture, and expand that ecosystem, which bene6ts every life form.

So instead of 6ghting nature, join it. Make use of the marvelous abundance surrounding you. You'll be glad you did.

Also, instead of focusing on the rare, beautiful, and unique varieties that the botanical explorer might be looking for, I've deliberately avoided the lesser found mountain-prairie plants. My objective is to allow you to step into a prairie near your home and 6nd not a few, but an incredible abundance of useful plants that can used for food, medicine, and crafts. These are the plants that natives could have lived on. These are the plants that you see literally everywhere. They're not weeds! They're natures abundance, and now that you have the information to know how to use them, they're your abundance, too.

Also, pleasedon't take any of the information here as medical or health advice. The information presented is based here on limited available research, and shouldn't replace the advice of doctors and health professionals, but should be used as general information that can be used to assist in helping you decide what might (or might not) be worth using with the advice of such professionals.

## Native and Naturalized Plant List

(Listed Aphabetically)

Alfalfa, medicago sativa

Alyssum: <u>Desert Alyssum, AlyssumDesertorm</u>
Alyssum: <u>Yellow Alyssum, Alyssumalyssoids</u>
Aster: <u>Mojave Woodyaster, Xylorhiza tortifol</u>ia
Aster: Sticky Aster, machaeranthera bigelovii

Bindweed, Convolvulus Arvensis

Biscuitroot, Lomatium foeniculaceum

Blue Mustard, Chorispora tenella

Bur Buttercup, Ceratocephala testidata

Carpet vervain, Verbena brateata

Common Mallow, Malva neglecta

Curlycup Gumweed, Grindelia squarrosa

Dandelion, Taraxacum o6cinale

Filaree, Erodium cicutarium

<u>Five-horn smotherweed</u>, Bassia hyssopifolia

Globemallow: Scarlet Globemallow, Sphaeralcea coccinea

#### Grasses:

<u>Bulbous Bluegrass</u>, <u>Poa bulbos</u>a

Crested Wheatgrass, Agropyron cristatum

Cheatgrass, Bromus tectorum

Field brome, Bromus arvensis

Johnsongrass, Sorghum halepense

Jointed Goatgrass, Aegilops cylindricar Triticum cylindricum

Kentucky Bluegrass, Poa pratensis

Medusahead, Taeniatherum caput-medusae

Orchardgrass, Dactylis glomerata

Quackgrass, Elymus repens

Rye, Secale cereal (AKA Cereal rye)

Slender wheatgrass, Elymus trachycaulus

Squirreltail, Elymus elymoides

Wall barley, Hordeum murinum

Kochia, Bassia scoparia

Knotweed: Prostrate knotweed, Polygonum avicularels possibly erect knotweed, polygonum erectum)

Lambsquarters, Chenopodium album

Povertyweed, Iva Axillaris

Prickly lettuce, Lactuca serriola

Prickly Pear: Pancake prickly Pear, Opuntia chlorotica

Purple Milkvetch, Astragalus agrestis

Rabbitbrush, Ericameria nauseosa

Ragweed: Annual Bur-sage, Ambrosia acanthicarpa

Red Goosefoot, Oxybasis rubra

Russian Thistle, Kali tragus

Russian Orach, Atriplex heterosperma

Sagebrush: <u>Big Sagebrush</u>, <u>Artemisia tridentat</u>a Sagebrush: <u>Little Sagebrush</u>, <u>Artemisia arbuscul</u>a

Sagebrush: Sand Sagebrush, Artemisia lifolia

Salsify, Tragopogon dubius

Shepherd's Purse, Capsella bursa-pastoris

<u>Slim Larkspur, Delphinium depauperatu</u>m

Skunkbush sumac, Rhus trilobata

Spearleaf Mountain dandelion, Agoseris retrorsa

Stansbury Phlox, Phlox stansburyi

Sun7ower: Prairie sun7ower, helianthus petiolaris

Tansy Mustard, Descurainia pinnata

Thistle: Scotch Thistle, Onopordum acanthium

Tumble Mustard, Sisymbrium altissimum

Whitetop cress, Lepidium draba

Yarrow, Achillea millefolium

## Amaranthaceae—Beet Family

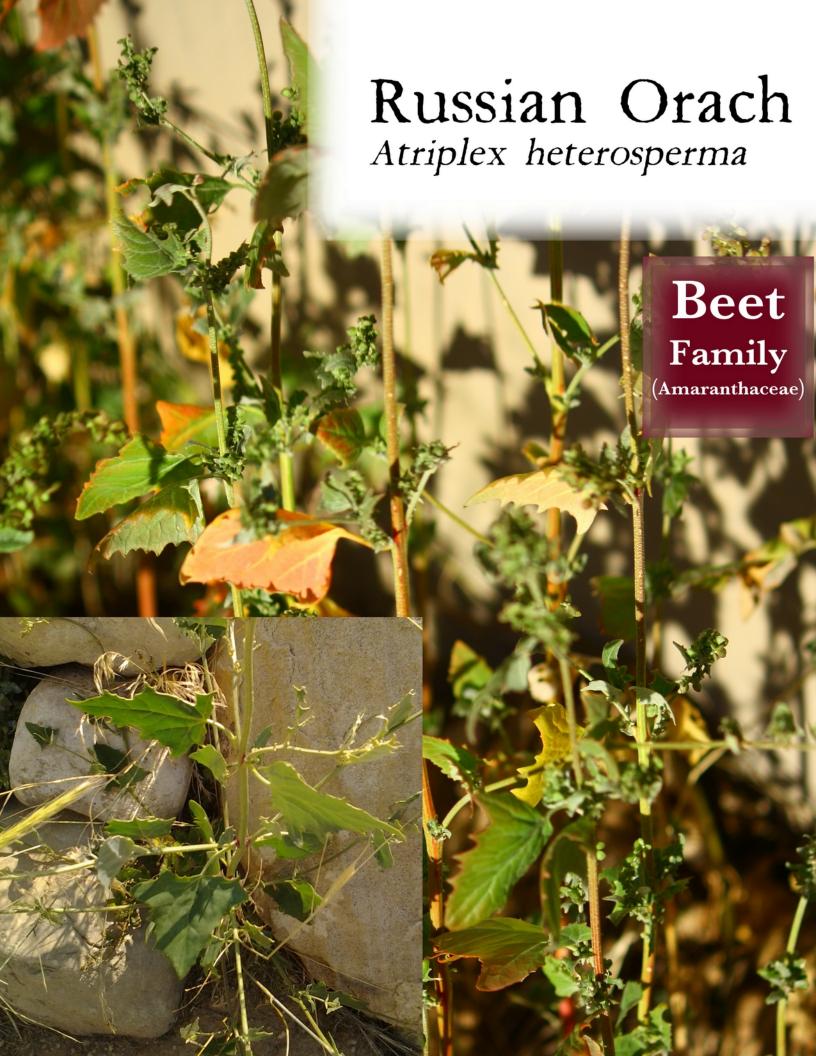
Within the Amaranth family we 6nd many of the more nutritious foods in our diets, such as beets, spinach, chard, and quinoa. But the bene6ts gained from these nutritional powerhouses aren't limited to these four. Many wild plants from the same family oCer the same bene6ts, grow prodigiously, and have longer growing seasons. But just as with beets and spinach, there is the mild issue of oxalic acid, which for most people is basically harmless. But to those sensitive to it, it can interfere with the body's ability to absorb calcium. The oxalic acid binds itself to the calcium, so that the body can't use it, and it passes through with waste. Since the body already produces most of the oxalic acid we get on its own, for most people, adding a bit more is no big deal. But for those prone to kidney stones, this can increase the chances of such stones.

Oxalic acid is broken down when the plant is cooked, so if you're eating more than a little bit of the raw Amaranth vegetables, you may want to boil them, throw them in a soup, or toast the sandwich. Also, most sources suggest that the calcium inhibited by eating raw foods with oxalic acid is only inhibited in the food containing the oxalic acids, and not in other foods eaten at other times. In other words, if you eat raw spinach, you won't get the bene6ts of the calcium it contains, but if you have a glass of milk with it, you will get the bene6ts of the calcium in the milk. Even so, cooking eliminates even that problem. Also, adding 6ber to the meal can help prevent some of the oxalic acid from binding.

Aside from that, the Amaranth family provides a delicious storehouse of superfoods that you probably don't want to ignore.

http://www.livestrong.com/article/291119-what-foods-block-calcium-absorption/

<sup>2</sup>http://www.emedicinehealth.com/osteoporosis\_and\_calcium/page6\_em.htm





#### Russian Orach, Atriplex heterosperona Atriplex micrantha

AKA two-scale orach, two-scale saltbush, Russian atriplex, Russian saltbush, two-seeded orach. Russian orach is mannual that looks very turch like landsquarters, butcan be discerted by the orach's larger fruit/seed head, which easily Calsessal Dodividual disk-like seed looks.

## <u>Uses</u>

Primary use: Eating the delicious raw green leaves.

Edibility: Though I can 6nd very little information about this speci6c Russian orach species, I think we can derive a lot from what we know of the orach genus. Often called common orach (OR-utch or Or-itch), the entire atriplex genus comprises dozens of plant species, and nearly all, including Russian orach, seem to be very edible and nutritious, the entire plant, raw or cooked. As a cousin of spinach and lambsquarters, Russian orach leaves make a delicious salad that can likely be eaten in quantity. The leaves taste like thick, crisp lambsquarters or spinach, and can be used in any way you would prepare either. The plant is able to retain salt in its leaves, earning it the nickname saltbush, and also reserving a mildly savory 7 avor.

The stems are supposed to be good in stir-fry.

The seeds of the Russian orach are larger and more easily separated than those of lambsquarters, and can probably be prepared similarly. Like quinoa, the seeds can probably be soaked and then boiled with a 1 to 2 ratio of seed to water until the water is gone.

Medicinal: The leaves of orach are mildly diuretic and purgative. They are also a stimulant to the metabolism, and mixed with liquid it can be used to reduce tiredness and nervous exhaustion. The seeds have been used to excite or induce vomiting. The plant can be used to make lotion for the skin, and that lotion can help treat tumors and in ammation on the skin or throat. Orach is said to assist in digestion, clean the blood, improve kidney health, improve cardiovascular health, and strengthen the immune system. The 7 owers of some orach species have been used on insect bites, and Native

Americans used orach to treat sore throats, jaundice, and gaut.<sup>6</sup>

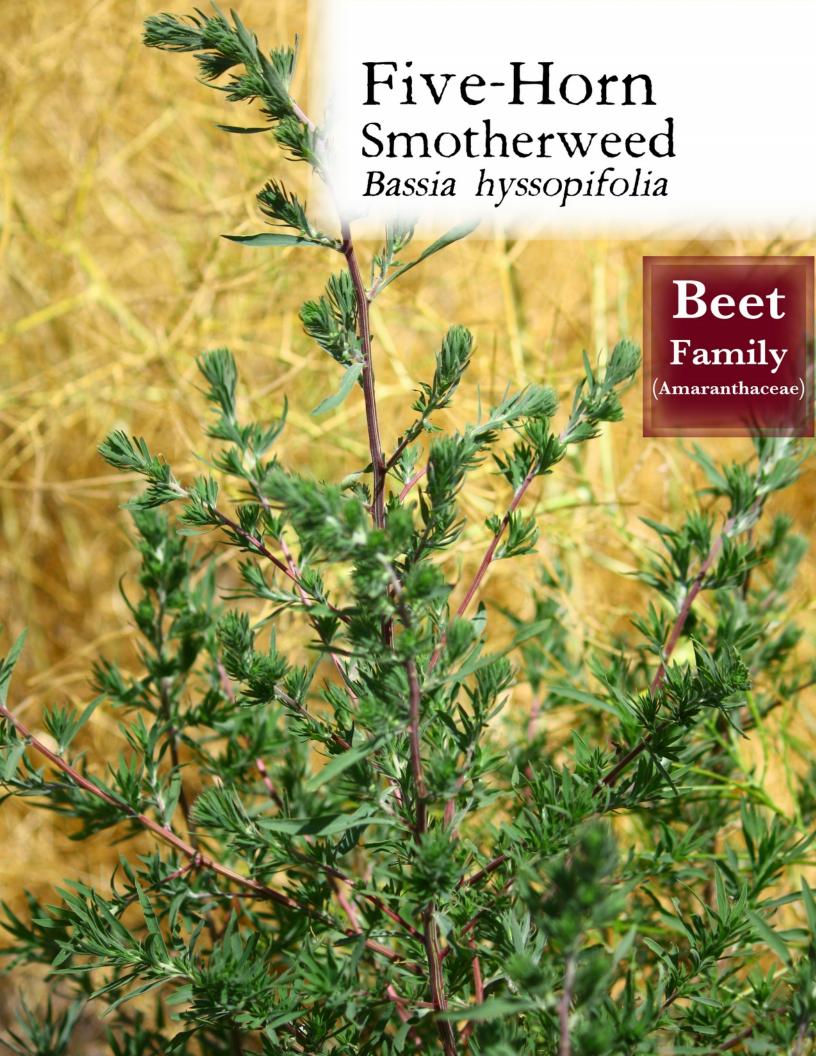
Ecological: Orach tends to prefer dry, salted (saline) soils, which makes it a fantastic restoration plant. Combining orach with a diverse population of native and invited plants serves well to restore soil vitality, reduce soil salines, and provide healthy edible landscaping in the process. It also tends to stay green a little later in the year than lambsquarters.

Practical/Artistic: The seeds can be used to make blue dye.

Caution SA triplex, like larbsquarters and spinach, should not be extenif arti>cial fertilizers are used in the soil surrounding the fertilizers are present, the plants take up harmful amounts of nitrates. They are best grown and harvested in pertending round.

The plant contains aponins, so if exing seeds inquantity, they would best be cooked.

Also likedambsquarters and spinach, those pronto kidney and gallstones shuld be careful using this plant, as it contains calcium oxalate, which is the primary composition of kidency ston





#### Five-horn Smotherweed, Bassia

#### hyssopifolia

Five-horn smotherweed is a reseeding annual, native to Asia and Eastern Europe, and introduced into the western United States in about 1915.<sup>7</sup> Be careful not to confuse this plant with Kochia scoparia, which is very similar in appearance, but has more useful properties.

## <u>Uses</u>

Primary use: shade for smaller plants.

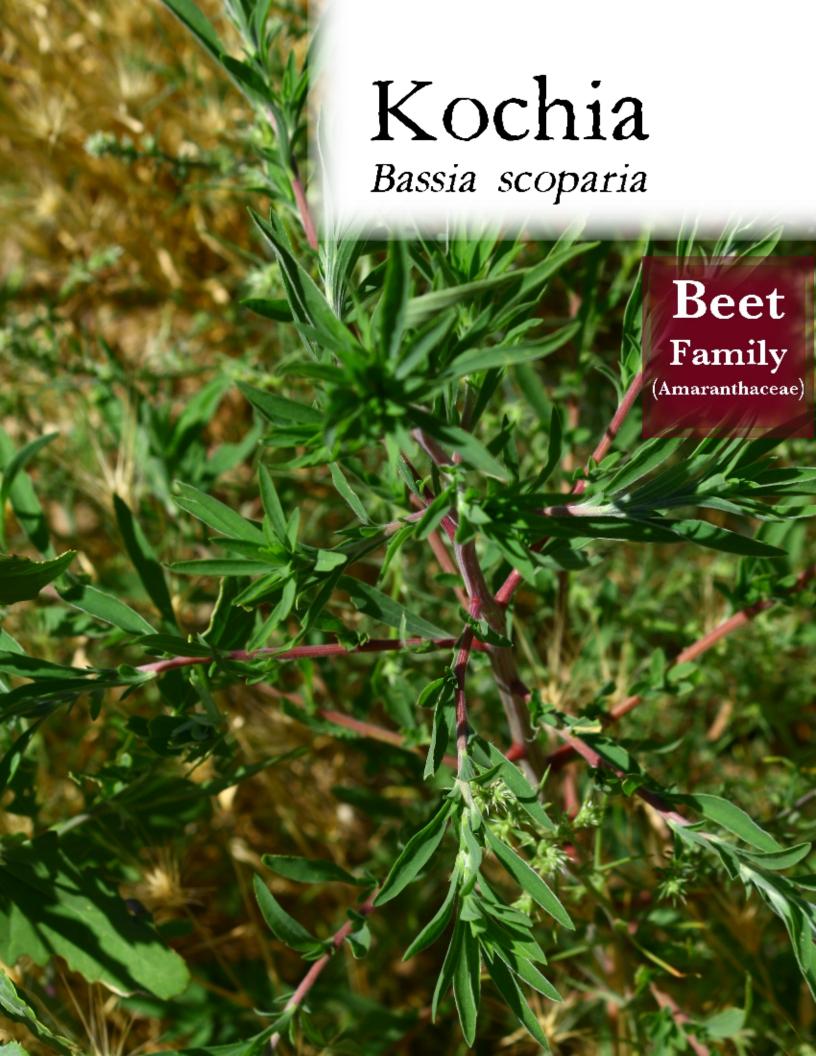
Edibility: None. This plant is even suspected of being toxic to livestock, so it probably shouldn't be eaten by humans.<sup>8</sup>

Medicinal: None known.

Ecological: Since smotherweed grows bush-like, and sometimes thick, it can provide some shade to lower level plants, protecting them from excessive sun and protecting some of the moisture in the soil. Since it grows so well in saline and alkaline soils, it is good for helping prevent erosion.

Cautions: Though I can 6nd no indication of toxicity or edibility to humans, 6ve-horn smotherweed is suspected to be slightly toxic to livestock (mostly sheep). It's also known to be an allergen to those with pollen allergies.

<sup>7</sup>Richard Stephen Felger, Flora of the Gran Desierto and R'o Colorado of Northwestern McKincson, Arizona: University of Arizona Press; First Edition edition, 2001), 246





#### Kochia, Bassia scoparia

AKA Burningbush. Kochia is a reseeding annual native to Eurasia, and was brought as an ornamental, because of it's beautiful autumn color. Be careful not to confuse this plant with Five-horn smotherweed, which does not have all the same useful attributes as kochia.

## Uses

Primary use: Eating cooked and soaked seeds as Tonburi.

Edibility: Cooked leaves and tips are edible, and have a rather salty taste. Seeds can be dried, boiled, then soaked in water for a day to make a Japanese favorite food called "Tonburi," which is said to be similar to caviar. This becomes a viable food source, since each kochia produces a low average of 15,000 seeds. To any who enjoy quinoa, kochia is a relative.

Medicinal: In Chinese medicine, kochia has been used for skin treatments, such as eczema, and pimples. The stem is used to treat diarrhea and dysentery. It can also be used to reduce urine 70w when such is excessive, and it is used for various types of pain associated with urination. Kochia may also have antifungal and diuretic properties. To Some studies show that kochia may have some use in treating breast cancer.

Ecological: Kochia is a common livestock forage, and is also eaten by deer, prairie dogs, birds, and rabbits, providing them with a good source of protein, comparable to alfalfa.

Cautions: Like spinach, kochia can easily absorb too much nitrate if nitrogen fertilizers are used. Likewise, if it is surrounded by a lot of legume and other nitrogen 6xing plants, it shouldn't be eaten. And, to reiterate, be careful not to confuse this plant with Five-horn smotherweed, which does not have all the same useful attributes as kochia, but looks very similar.

<sup>9</sup>http://www.eattheweeds.com/kochia/

o http://herbpathy.com/Uses-and-Bene6ts-of-Bassia-Scoparia-Cid4805

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4189286/





#### Lambsquarters, Chenopodium Album

Lambsquarters, normal and narrow-leaf (wild—AKA wild spinach)
Lambsquarters is a reseeding annual that has both native to North America and introduced varieties (by early American settlers).

## <u>Uses</u>

Primary use: eating the edible leaves, raw or cooked.

Edibility: Edible leaves and 70wers, raw or cooked. Edible seeds when cooked. Seeds can also be ground for mush.

Also sometimes referred to as wild quinoa, the seeds can be prepared the same way. The leaves are also eaten raw or cooked like spinach. Native Americans used it as a grain crop for centuries. Lambsquarters is among one of the many species/varieties of tumbleweed.

Eat the leaves any way that you might eat spinach (lambsquarters is also often called wild spinach). Great in salads, soups, and pesto, or cooked into recipes calling for cooked spinach.

Seeds can be gathered by shaking the tops in a bag, and they can be prepared by grinding into a nutritious black 70ur and added to cereal grains. They can also be boiled like quinoa. Either way, the seeds should be cooked. Another method for eating the seeds is to sprout them (which only takes 1-2 days) and eat the microgreens raw. Native Americans often used the seeds for meal in bread or gruel.

Lambsquarters is one of the most nutritious wild edibles. 3.5 oz of raw lambsquarters leaves provides the following vitamin and mineral percentages of a typical<sup>15</sup> adult's daily needs:

Vitamin A: 232%

Manganese: 39%

Calcium: 31%

Thomas S. Elias and Peter A. Dykeman, Edible Wild Plants: A North American Field Guidlew York, Sterling Publishing Co., 1990), 75

<sup>13</sup> http://www.motherearthnews.com/real-food/seasonal-recipes/lambsquarter-zeoz1412zcgp.aspx

<sup>14</sup> H.D. Harrington, Edible Native Plants of the Rocky Mounta(Aslbuquerque, University of New Mexico Press, 1967), 69

Based on an average adult weighing 154 pounds.

Ribozavin: 26%

Dietary Fiber: 16%

Copper: 15%

Vitamin B6: 14%

Thiamin: 11%

Potassium: 10%

Lambsquarters also provides the following Amino Acids:

Histidine 17%

Isoleucine 18%

Leucine 0.35 g 13%

Lysineo.354 g 17%

Threonine 0.163 g 16%

Tryptophan 0.038 g 14%

Valineo.226 g12%

There are more vitamins, minerals, and amino acids in lambsquarters that are under 10% as well.

Comparing Lambsquarters nutrition information to that of spinach shows that for the most part, lambsquarters is significantly more nutritious than traditional spinach.<sup>16</sup>

Medicinal: Though lambsquarters' best use is as a food, it does have mild medicinal uses. Native Americans used lambsquarters to prevent scurvy, and to treat stomachaches. <sup>17</sup> It is also used to treat burns by making a poultice of the leaves and placing it on the aCected area. It can also be consumed for intestinal problems. <sup>18</sup> A cold herbal tea can be consumed to treat diarrhea. The poultice of lambsquarters can also be used to treat itchy skin. <sup>19</sup>

r6 http://skipthepie.org/vegetables-and-vegetable-products/lambsquarters-raw/compared-to/spinach-raw/

<sup>17</sup> http://www.edibleweedsandthings.com/tag/lambs-quarters/

<sup>8</sup> https://extension.usu.edu/weedguides/6les/uploads/Chenopodiaceae.pdf

<sup>9</sup> http://www.digherbs.com/lambs-quarter.html

Ecological: Lambsquarters attracts butter7ies, and other bene6cial insects. Lambsquarters is sometimes an indicator species for healthy soil. It's presence indicates that the soil is a pH between about 4.5 to 8.3.

Cautions: Though most sources list the seeds as harmless, Gregory L. Tilford suggests that although the leaves are very nutritious and safe in any quantity, the seeds should only be consumed when cooked and in small quantities. Too much of the seeds can lead to toxic eCects.<sup>20</sup> This idea probably comes from the fact that there are saponins in the seed.<sup>21</sup> Others suggest that though the leaves are nutritious, oxalic acid in the leaves means they should also not be eaten in too great of quantities.<sup>22</sup> Because of this, those with kidney stones, gout, or rheumatoid arthritis should probably avoid lambsquarters. There are a couple potentially mildly toxic lookalikes called Chenopodium botrys and Chenopodium ambosioides that should be avoided. Most other species in the genus are eaten just like Chenopodium album.

Lambsquarters also contains saponins, which are harmless in small quantities, but could begin to become toxic if eaten in great quantities.

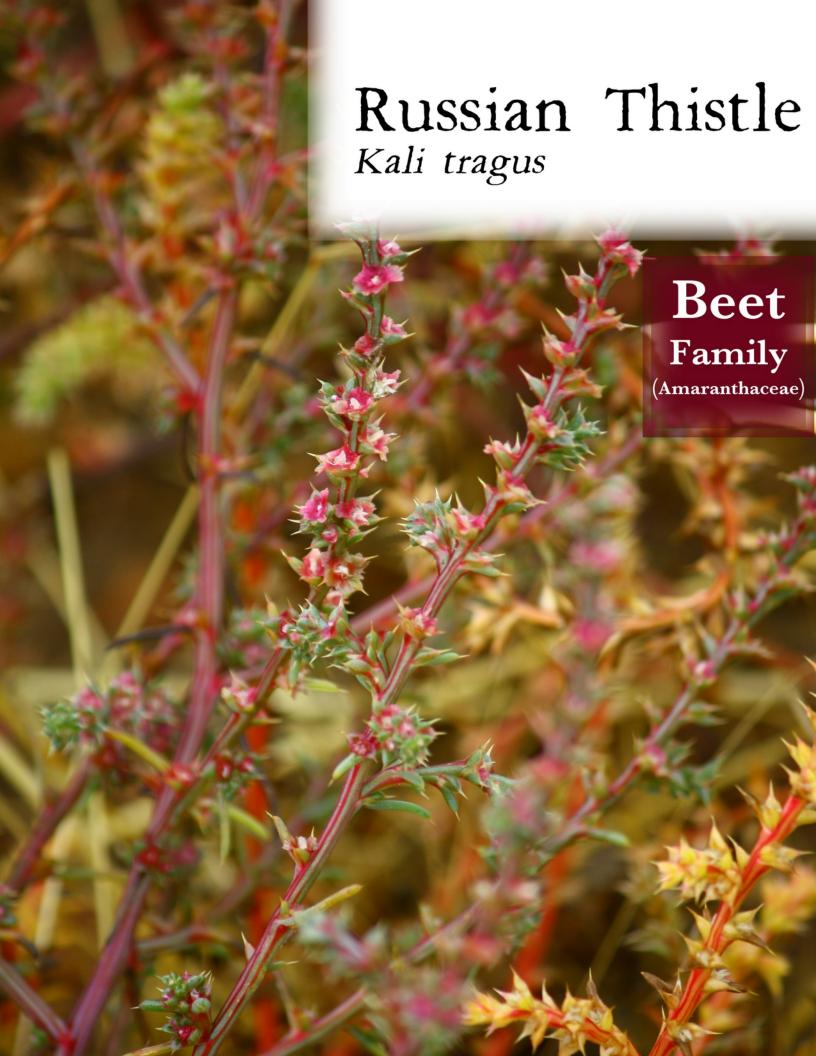
Also, though not common, some people are allergic to this plant.<sup>23</sup>

<sup>20</sup> Gregory L. Tilford, Edible and Medicinal Plants of the West, (Missoula, Montana: Mountain Press Publishing Company, 1997)

<sup>21</sup> http://www.ediblewildfood.com/lambs-quarters.aspx

http://www.ediblewildfood.com/lambs-quarters.aspx

<sup>23</sup> http://www.pollenlibrary.com/Specie/Chenopodium+album/





#### Russian Thistle, Kali tragus

AKA Prickly saltwart, windwitch, or common saltwart. Russian thistle has had many Latin names, <sup>24</sup> such as Salsola kali<sup>5</sup> and Kali turgidum. Gly recently has it adopted the scientiæ name Kali tragus Russian thistle ismannual tumbleweed native to Eurasia, but accidentally imported from Russia into North America in the 1870s with the intended Caxseed.

## <u>Uses</u>

Primary use: eating young leaves and shoots raw.

Edibility Young tender leaves and shoots are edible corwooked, and have a ind yet pleasant salty Cavor. With age, they become hard and spiny, and should no longer be eaten, since they can scratch or irritate the throat. The seed can also be roasted and eaten.

Medicinal Russian thistle cabe chewed into pulp and then placed on was pand bee stings, as well as ant bites, to sooth them. Also, the plant can be soaked in water or alcohol to make an external wash for smllpox and Cu<sup>26</sup>.

Ecological The thick thorny bush of Russian this the base great deterrent/solution to erosion. It adds a good deal of biomass to the ground, and because of the thorns, protects the ground against heavy human or animal foot trace.

Practical/Artistic Russian thistle is some burned and the ashes become sodium carbonate, which can be used for cleaning (isoaps, etc) and in glassmking. The ashes are usually called soda ash.

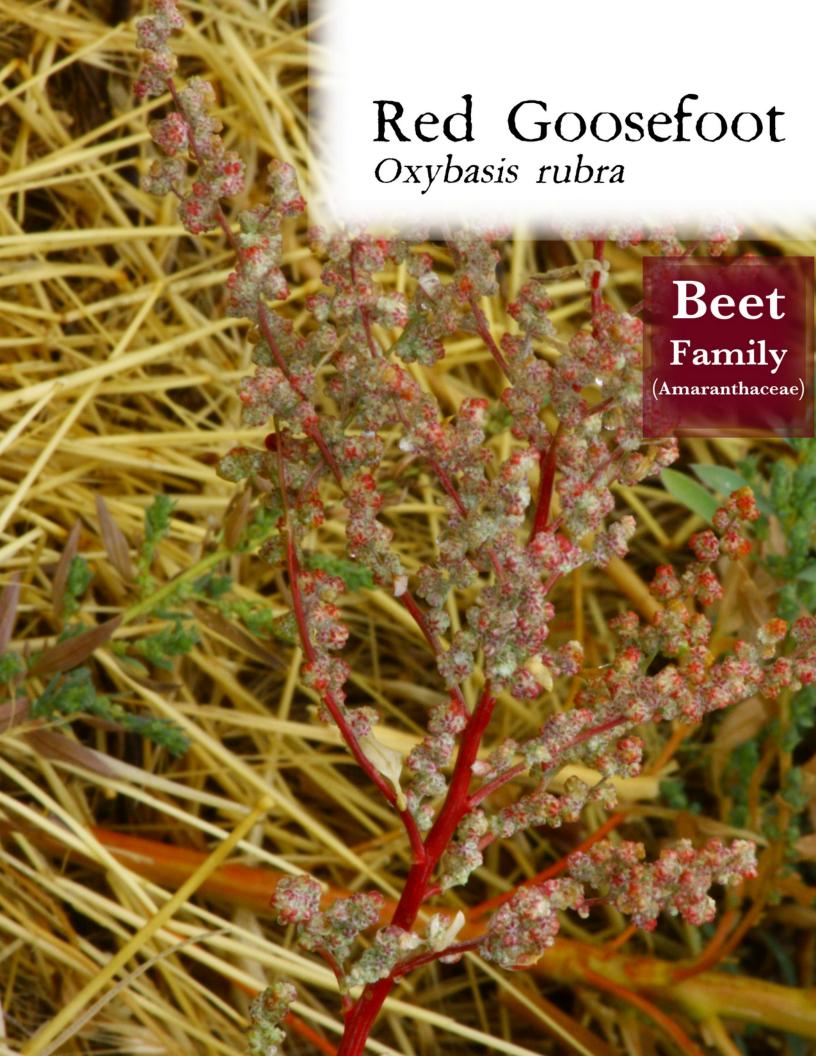
Russian thistle is tumbleweed, but much spirier and sharp than most. Because of this, it can be bunched together and used to reenforce a weak or spindly fence or barrier to discourage unwanted mammals or people from entering an area you would like to protect, such as a garden.

<sup>24</sup> Russian Thistle, Prickly Saltwart, Salsola kalor Kali turgidurlit appears this species has hopped around in classification, which is why it has more than one Latin name. Some sources (such as the USDA website, and most of the older classification methods) place it in the Chenopodiaceae (Goosefoot and lambsquarters) family. Now that entire family is classifed genetically as being in the Amaranthaceae family.

Hossein Akhani, Gerald Edwards, Eric H. Roalson:Diversi6cation Of The Old World Salsoleae s.l. (Chenopodiaceae): Molecular Phylogenetic Analysis Of Nuclear And Chloroplast Data Sets And A Revised Classian, (In: International Journal of Plant Sciences 168(6), 2007), 931–956

<sup>6</sup> http://www.pfaf.org/user/Plant.aspx?LatinName=Salsola+tragus

Cautions First on De careful about the spines. They can be brutal! Russian thistle does contain (just like it's cousin, spinach) also mounts of oxalic acid, which can be mildly toxic to sensitive individuals. Because of this, it should probably not be edits ugneat quantities unless it is cooked, since cooking breaks down oxalic acid. The couple are allergic to Russian thistle, so if your eating it, start with a very small amount, and thentry a little more aday or two later. If you have a negative reaction, stop taking it.





# **Red Goosefoot,** Oxybasis rubraormerly classifed, Chenopodium rubrum

Red goosefoot is an annual, native to North America and Eurasia. Prior to going to seed, it is virtually indistinguishable from lambsquarters. Red goosefoot has a thicker seed bunch, even weighing the plant toward the ground. And the seed bunch turns red in fall.

## Uses

#### Primary use: Cooking and eating seeds like quinoa

Edibility: Red goosefoot is basically a variety of lambsquarters, so the same edibility and medicinal qualities apply. Red goosefoot tends to produce a much heavier seed head than lambsquarters, so it's role as substitute quinoa has great potential.

It should be kept in mind that like lambsquarters and quinoa, this plant contains small amounts of saponins and oxalic acid,<sup>27</sup> so they should be consumed in moderation. Even so, both lambsquarters and red goosefoot are very nutritious plants.

A good preparation technique is to soak the seeds overnight, drain them, rinse once more, and then cook them like quinoa.

Medicinal: Red goosefoot is an excellent source of antioxidants, and is approved for use in antioxidant supplements.<sup>28</sup> The medicinal properties of lambsquarters should work with red goosefoot as well.

Ecological: Red goosefoot is often used as poultry feed, and is a favorite food of wild and domestic birds.<sup>29</sup>

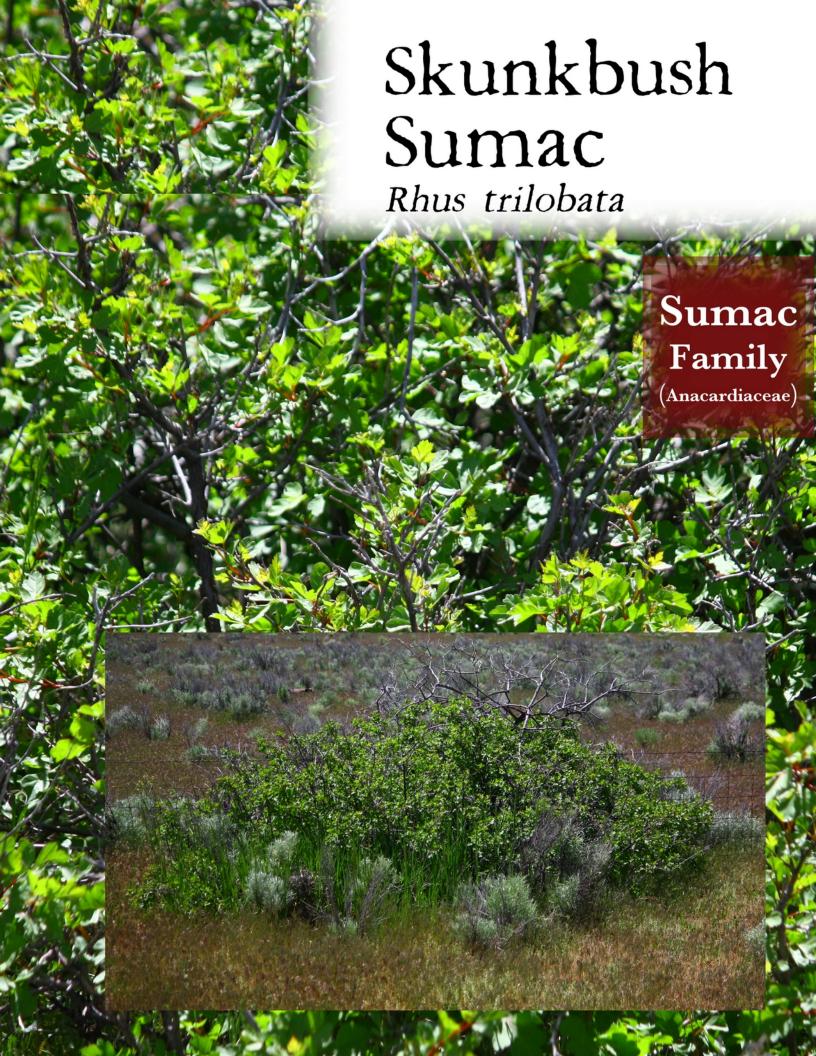
Cautions: As mentioned, red goosefoot contains saponins and oxalic acid in small quantities, so for those who are pregnant or who are prone to kidney stones, rheumatism, arthritis, gout, or hyperacidity should be especially careful with eating this plant.

<sup>27</sup> http://www.pfaf.org/user/Plant.aspx?LatinName=Chenopodium+rubrum

<sup>28</sup> US National Library of Medicine National Institutes of Health, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4705297/

o http://www.botanical.com/botanical/mgmh/g/goosef30.html

# Anacardiaceae—Sumac Family (including cashews and mangos)





#### Skunkbush Sumac, Rhus trilobata

AKA basketbush, squabush, and three-leaf sumac. Skunkbush sumac is a full size bush, native to western North America, from Canada all the way to Mexico.

## <u>Uses</u>

#### Primary Use: Edible berries for making skunk-ade.

Edibility: The fruits (the small, reddish-brown berries) are edible raw, dried, or cooked, but cooking them releases the tannic acids stored in the seeds, making them taste astringent and less desirable. The most common way to prepare the berries is to soak the fresh berries in hot (not boiling) or cold water for 10-30 minutes, then add a sweetener such as sugar or honey to make a delicious lemonade-like drink (not really called skunk-ade, but it's too great a name not to use it). The seeds can also be used to extract oil, which can be eaten. The way to tell if the berries are ripe is to taste them. If they're tart, they're ripe.

Young shoots, if peeled, can be eaten fresh like celery. Green Deane from EatTheWeeds.com gives this description for eating shoots:

"First year shoots oCold stumps are the best, but the spring-time tips of old branches are also edible but not as good. Look at the end of a shoot after you break it oC If you see pith, which is an oCwhite core, it is too old. Break oCthat part then look again. You want a shoot stem that is all green inside. Then strip oCthe leaves and peel the shoot. You can eat it raw or cooked. They very purfume-ish and slightly astringent."<sup>30</sup>

Also, cleaned and dried seeds can be ground to make a seasoning that adds a nice lemon-like 7 avor to salads or meat.

Medicinal: Native Americans used skunkbush sumac for many medicinal purposes. The fruit was used for pain relief and stomachache, as well as assisting in digestion. The fruit is also chewed to relieve toothache and used as a mouthwash, or made into a wash and rubbed in hair to help prevent hair loss.<sup>31</sup>

o http://www.eattheweeds.com/sumac-more-than-just-native-lemonade/

i http://medplant.nmsu.edu/rhus.shtml

The leaves were used to stop bleeding. They used the leaves for other internal purposes, but because of the level of toxicity in the leaves, it's best to stick with the berries for medicinal uses.

The leaves can be rubbed on the skin to deter insects and snakes (just be aware of the cautions listed below before rubbing leaves).

Ecological: Skunkbush is a valuable plant in overgrazed desert prairie, because where no trees are present, it can be the largest source of shade, making it a habitat for birds and other animals, who feed on the berries. It grows thick and round, so it could be an excellent hedge that requires no watering once established. I mean, who can beat a hedge with edible berries?

Because it is large (for a bush) and thick, it's also a good wind breaker.

Skunkbush is also an early bloomer, making it a good plant for attracting early pollinators.

Practical/Artistic: The ashes of the skunkbush sumac is used as a mordant to 6x dyes. <sup>32</sup> Also, the leaves can be used to make black or brown dye, the berries can be used to make pink/tan dye, the twigs can be used to make yellow dye, and the bark can be used to make red/brown dye. The leaves of many sumacs contain enough tannin to tan leather, making it 7exible, lightweight, and light colored. The seeds have oil that can be made into candle wax. Because the branches are long and 7exible, they have been used in basketmaking (hence the alternative name, basketbush) and rugs by the Navajo and Zuni. Sumac wood, when dry, looks 7uorescent under long-wave ultraviolet light.

The roots and buds can be used to make perfume or deodorant.

The twigs can be used for making crafts, tools, and decorations. Large stems can be used to make bows.

Cautions: Don't eat the leaves of the skunkbush sumac. They are high in tannic acid. Some few people have even voiced concerns about the oil of the leaves irritating their skin, though this hasn't been the case for most people. Also, though only carrying a vague resemblance to skunkbush sumac, its distant cousin, poison sumac, is... well, poison. Very poisonous, in fact. But poison sumac has white berries.

You'll recognize the name of another poisonous cousin—poison ivy. Be careful not to confuse them, since seedling poison ivy does resemble the leaves of skunkbush sumac.

The leaves of the skunkbush also looks a little like poison oak, which has the same properties as poison ivy. Just make sure you're certain you have a skunkbush sumac before using it for it's fantastic properties.

# Asteraceae—Aster Family (Including Lettuce and Sun@er)

The aster family is one of the largest and most diverse of all plant families, and subsequently oCers one of the most diverse array of edible, medicinal, and practical uses. You'll probably recognize some of the following members of this lovely family:

Sunzowers, Lettuce, Artichoke (very closely related to thistle, actually), Chicory, Tarragon

And those are just the foods. There is also:

Sagebrush, thistle, daisy, chrysanthemum, and marigold

There are hundreds of others, but that may give you a bit of an idea of the vastness of the varieties within this diverse family.

The word, Asteraceae and the word astercome from the word astro, meaning star—which makes sense, since asters and daisies have so many star-like 70wers.





#### Yarrow, Achillea millefolium

Yarrow is aperemial plant, native to the temperate regions of the northern hemisphere, including North America, Europe, and Asia.

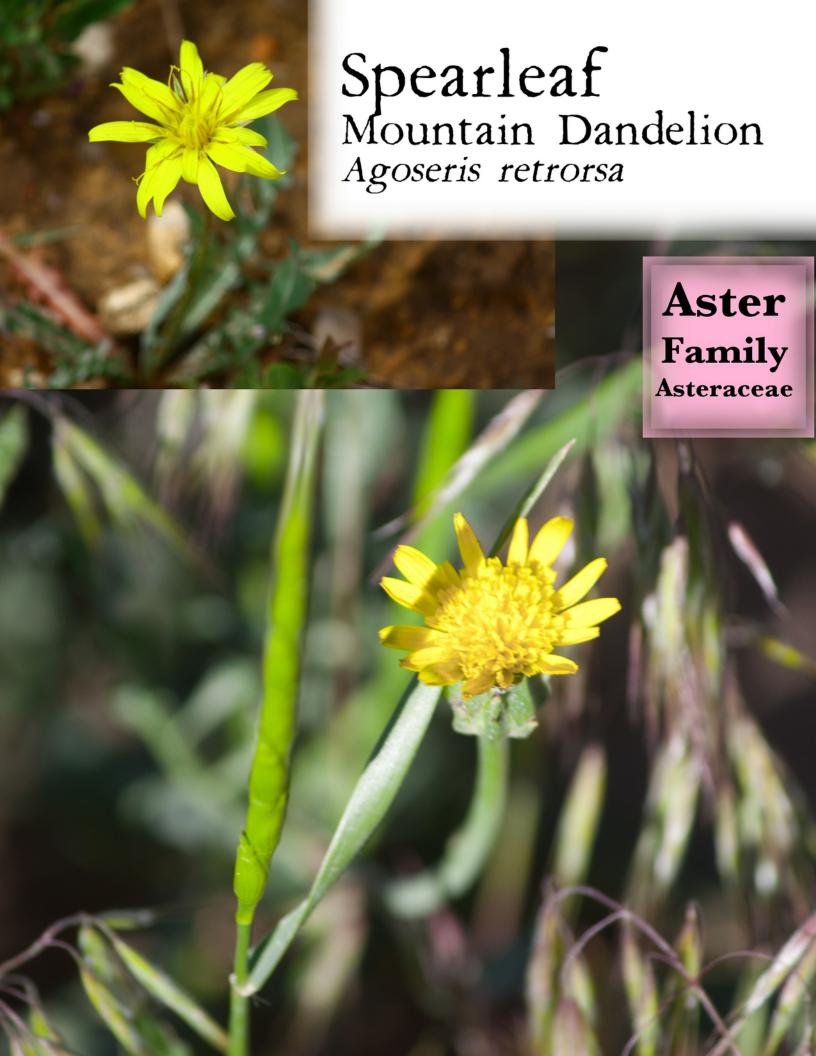
## <u>Uses</u>

Primary use: natural Tylenol (pain relief and fever reduction)

Edibility: Leaves can be eaten raw or cooked, and 70wers used as herbal seasoning, though yarrow is best used as medicine, and shouldn't be consumed in large quantities.

Medicinal: Yarrow is considered a must have in the natural-medicine household. It's most often used as a cold remedy, as an expectorant and pain reliever. It's also used to promote sweating, and as such, can be used to help break fever. Basically, yarrow is a gentle natural Tylenol. Yarrow is supposed to act as a tonic for the vascular system (blood veins), and is therefore good for those with varicosity (varicose veins) and other circulatory conditions. Some people rub the leaves on their skin as an eCective temporary insect repellent.

Cautions: Yarrow can cause dermatitis if applied too often on the skin of those who are sensitive to such conditions. Also, the plant has thujone, which can be toxic if consumed in large quantities over a long time.<sup>33</sup>





### Spearleaf Mountain Dandelion,

#### Agoseris retrorsa

AKA spearleaf agoseris or spearleaf falsandelion. Will just call it the mountaindandelion. Though not in the same genus as the dandelion, ittheisame family and tribe, and carries many of the same properties. Mountaindelion is aperential, native to western North America.

## <u>Uses</u>

Primary use: Inviting pollinators and beautifying landscape.

Edibility: The 70wer and leaves of the mountain dandelion can be eaten raw or cooked. The sap from the stem can be dried and then chewed like gum.<sup>34</sup> The Kawaiisu would boil the whole above-ground plant, then wash the plant in cold water to remove bitterness. They would also sometimes fry mountain dandelion in grease.<sup>35</sup>

Medicinal: Though I could 6nd little about the medicinal uses of the speci6c species, Agoseris retrorsa, there is more medicinal information about some of its closest relatives. For example, Agoseris glauca (which is nearly identical to A. retrorsa) is used as a wash to treat sores and rashes. The white sap is used to remove warts and moles, and is done by applying sap directly to the mole or wart several times a day for several weeks to be eCective. Also, a poultice from the sap can be applied to sores. Atea made from the root can be used as a laxative. <sup>36</sup> It is highly probable that the same eCects could be obtained using Agoseris retrorsa. Speaking of the species agoseris aurantiaca, Charmaine Delmatier of the USDA Forest Service says, "There have been reports of eCective medicinal uses such as an external pain-relieving liniment (lotion) for sprains, fractures, and bruising. The leaves contain a number of nutrients including iron, zinc, boron, calcium, silicon, and are especially high in potassium. It is also high in vitamins A, B complex, C, and D. Although, it is reported that every part of the plant is safe, there are also contradictory reports that it is toxic if it enters the bloodstream; care should be taken when using any plant material for medicinal uses." <sup>37</sup>

http://northernbushcraft.com/plants/agoseris/notes.htm

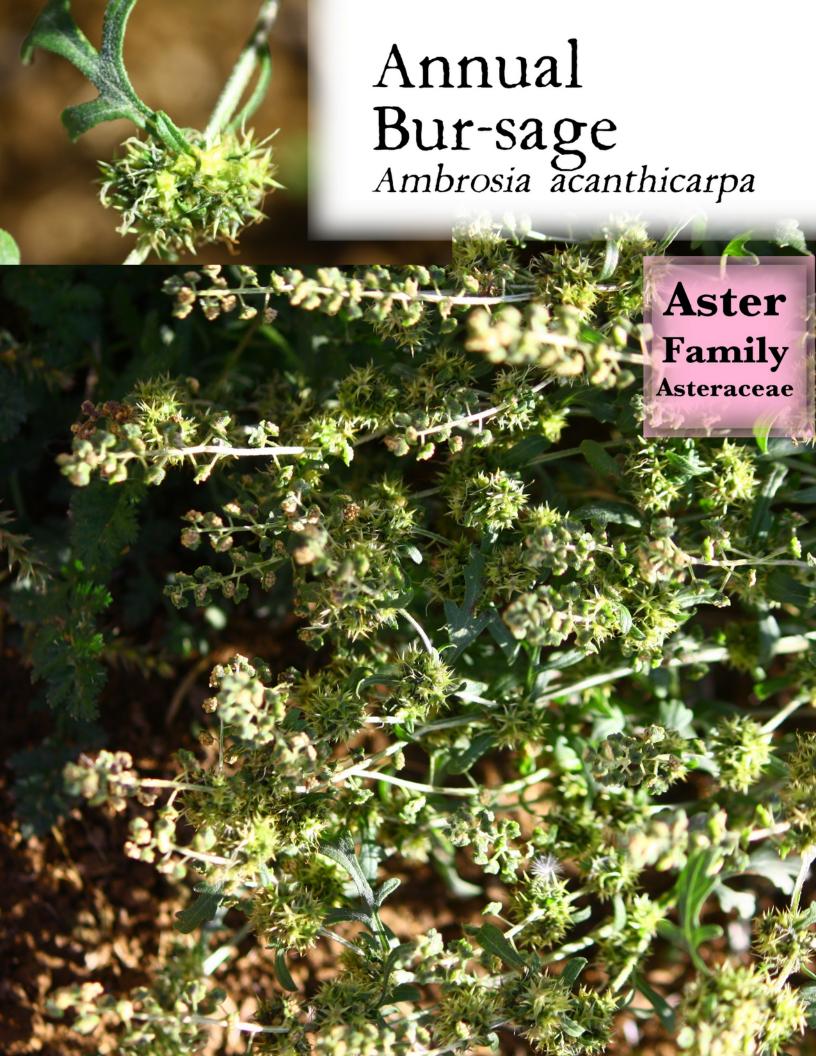
Daniel E. Moerman, Native American Food Plants: An Ethnobotanical Dictiona Portland, Oregon: Timber Press, 2010), pg. 36

<sup>36 &</sup>lt;a href="http://www.naturalmedicinalherbs.net/herbs/a/agoseris-glauca=mountain-dandelion.php">http://www.naturalmedicinalherbs.net/herbs/a/agoseris-glauca=mountain-dandelion.php</a> and <a href="http://www.pfaf.org/user/Plant.aspx?">http://www.pfaf.org/user/Plant.aspx?</a> LatinName=Agoseris+glauca

http://www.fs.fed.us/wild7owers/plant-of-the-week/agoseris\_aurantiaca.shtml

Ecological: Mountain dandelion is a great plant for inviting mid-spring pollinators, and since it tends to grow sparsely in any one location, it is unlike to become invasive. And, it's pretty. It makes a beautiful landscaping addition to wild7ower meadows. When blooming, it looks a bit like a marigold, and when seeding, it looks like a small salsify, with a medium-sized puC(with dandelion being measured as small and salsify being considered large).

Cautions Though somerelatives of mountain dandelion are sometimes applied to sores, rashes, and bruises (external injuries where the skin is not pierced), it probably shouldn't be applied in direct contact when an open wund, or where it may connect directly with the bloodstream. Though there hasn't been succeed to say for sure, some reports suggest that direct contact blood can be toxic.





### Annual bur-sage, Ambrosia acanthicarpa

Annual bur-sages one of the ragweeds, and is also known as Catspine bur ragweed, annual burrweedand western sand-burAnnual bur-sages an annual, native to western United States and Canada.

## <u>Uses</u>

Primary use: chewing the root for toothache.

Edibility: I can 6nd no edible properties speci6c to annual bur-sage, but it's sister plants, common ragweed and giant ragweed, have edible seeds that are said to be both healthy and palpable—tasting something like wheat bran. In fact, Green Deane (from EatTheWeeds.com) states, "Some reports say natives would grind the seeds, bring them to boil in water, the oil would 70at to the top, then was ladled oC"38 This was done because the seeds were such a powerful source of fat and raw protein. Modern foragers have had success eating the raw leaves of common ragweed, which suggests that annual bur-sage might also provide a safe edible green.<sup>39</sup>

Medicinal: The root can be ground up and placed on a tooth (probably chewed) to treat toothache. The Zuni used a wash of the whole plant for obstructed menstruation.<sup>40</sup> The pollen has been sometimes extracted in the creation of allergy treatments.<sup>41</sup>

Ecological: The seeds of the annual bur-sage are an important food for birds, rabbits, and voles—especially in winter, when few seeds can still be found.

Since the 70wers are an important food source for many butter7 ies, skippers, and moths, the plant brings valuable pollinators.<sup>42</sup> It does well in dry, disturbed soils, so it may have use in ecological restoration and increasing of plant diversity.

Caution SDo not use this plant if you're pregnarite Zuni claimed that subcient quantities of annual bur-sageil wabort ababy.

http://www.eattheweeds.com/ragweed/comment-page-1/

http://eatingwild.blogspot.com/2013/06/enjoying-instead-of-eradicating-ragweed.html

<sup>40</sup> http://ethnobotanical.info/pmwiki.php?n=Ambrosia.Ambrosia

https://www.drugs.com/pro/allergenic-extracts-pollen-more.html

http://www.newworldencyclopedia.org/entry/Ragweed

Annual bur-saggollenis a strong allergenfor those pron to hay fever—some evensay the strongest hay fever allergen in the worlflyouget hay fever, younay want to keepyour distance in blooming season.





#### Big Sagebrush, Artemisia tridentata

Big Sagebrush is peremial shrub native to North America.

## Uses

#### Primary use: medicinal tea.

Edibility: The leaves are edible, but ought to be cooked. They can be used as a condiment, but most often, sagebrush is consumed as as tea. The seeds can be eaten raw or cooked. They are said to be oily, but they can be roasted, ground, and/or mixed with water.<sup>44</sup>

Medicinal: Native Americans used sagebrush for many medical treatments. It was used for:

- Antiseptic (a soaking of the crushed leaves or leaves heated in oil is applied to an external wound)
- Disinfectant (a soaking of the crushed leaves or leaves heated in oil is applied to the area)
- Fever reduction (a tea or soaking of the leaves is drunk) by promoting sweating
- Sedative (a tea or soaking of the leaves is drunk)
- Headache (by scent alone, or a tea or soaking of the leaves is drunk)
- Help with digestion (a tea or soaking of the leaves is drunk)
- Constipation (boiled leaves)
- Indigestion (boiled leaves or a tea or soaking of the leaves is drunk)
- Stomach gas (leaves were chewed)<sup>45</sup>

http://www.pfaf.org/user/Plant.aspx?LatinName=Artemisia+tridentata

http://www.herbalpedia.com/SAGEBRUSH,%20COMMON.pdf

- Flatulence (leaves were chewed or tea is drunk)
- Sore throat (a tea or soaking of the leaves is drunk, or warm leaves are placed on the neck)
- Snakebite (poultice lotion is placed on bite and large amounts of the tea are drunk)
- Pneumonia (a tea or soaking of the leaves is drunk)
- Rheumatoid arthritis (a hot poultice of the plant is placed on the joint)
- Boils (poultice is placed on boil)
- Common cold (a tea or soaking of the leaves is drunk)
- Coughing (a tea or soaking of the leaves is drunk)
- Pain lotion (soaked or boiled in liquid or oil, such as coconut oil)
- Sore eyes (a poultice of steeped or soaked leaves is applied to the eyes)
- Treating dandruCor falling out hair (leaves are soaked and liquid is washed into hair)<sup>46</sup>
- Bug repellant (leaves rubbed on skin)
- Corns (heated into oil to make lotion, then the lotion is applied to the corn)
- Scent mask (rubbed on skin to hide human scent from animals while hunting)
- Foot bath (soaking leaves in hot water and then bathing feet in the water)
- Athletic tonic (tea is drunk to help sweat out impurities)
- Animal sores and illnesses (applied the same as with humans)

As you can see, the most common and useful application of sagebrush as medicine is to make tea of the leaves. Soaking leaves in water (I part leaves to 32 parts water) overnight, and then discarding the leaves, is one simple preparation for sagebrush tea. For treating external wounds, the leaves can be boiled and then cooled, upon which the water is poured over the wound or the wound is washed in the liquid.

For a simple, quick (though perhaps not as pleasant) tea-like treatment, you can suck on a leaf for a time and then spit it out. If this irritates your stomach, best stick with the more traditional preparations.

Ecological: Sagebrush grows in mountains, deserts, and open prairies, and is a major preventer of erosion, and while it requires full sun itself, it provides a good source of shade for young or shade-needing plants. It can also act as a wind barrier. It is eaten by wildlife year round, including deer, pronghorn, and elk. It is also grazed by agricultural animals such as sheep. It also provides habitat for small animals and birds.

Practical/Artistic: Sagebrush has a lovely scent, and is often used for its aroma by crushing leaves, especially after rain.<sup>47</sup> The wood can be used for a friction stick for making 6re, and the whole plant burns easily, so it can be used for cooking over a camp6re, even if still green. Sagebrush can be used in making baskets, dyes, and 6ber. The leaves and branches can be burned like incense, making an aromatic smoke.

Caution SThis plant should not be used while pregnant or nursing. It also shouldn't be used for emphysema or bronchiectas Aslthough rever found to be toxic, sompeople with sensitive skin have gotten derinis from agebrush. Sompeople was sufer from allergies have had reactions from this plant.

As with using any wild edible for that time, start small to ensure you don't have a reaction before using the plant in any degree of quantity.

http://www.tolweb.org/treehouses/?treehouse\_id=4623

http://www.herbalpedia.com/SAGEBRUSH,%20COMMON.pdf

### Little Sagebrush, Artemisia arbuscula

Also known as low sagebrush, early sagebrush, dwarf sagebrush, or gray sagebrush. Little sagebrush in native to the western United States.

## Uses

As a sagebrush, little sagebrush carries the same edible, medicinal, ecological, and practical/artistic uses as big sagebrush. The only diCerence is that though it still burns like other forms of sagebrush, since little sagebrush sometimes forms expansive plant communities, it can close out ground access, making it slightly less susceptible to wild6re.<sup>49</sup> Little sagebrush and big sagebrush have been known to cross, making a hybrid sagebrush of the two.

Little sagebrush also carries the same cautions as big sagebrush.

### Sand Sagebrush, Artemisia flifolia

AKA sand sage, silver sage, and sandhill sage. Sand sagebrush is a perennial shrub, native to North America.

## Uses

As a sagebrush, sand sagebrush carries the same edible, medicinal, ecological, and practical/artistic uses as big sagebrush.

Little sagebrush also carries the same cautions as big sagebrush.<sup>50</sup>





#### **Prairie Sunfower**, Helianthus petiolaris

AKA lesser sun7ower. Prairie sun7ower is an annual, native to the western United States.

## Uses

Primary use: Edible seeds and sprouted greens.

Edibility: The seeds, like other sun7owers, are edible raw or cooked. They're smaller than store-bought seeds, but more nutritious. Seeds can also be harvested for oil to be used as vegetable oil. Because the seed is so oily, they can also be ground to powder and needed into sun7ower seed butter that can be used like peanut butter. This can be accomplished by removing the seed from the shell and food processing them for 7-8 minutes or until they reach the desired consistency. Seeds are ready to remove from the head when the back of the head turns dark brown. If you want to beat the birds, you can remove the head a little early and let it dry somewhere safe before removing the seeds.

The raw, freshly sprouted greens are tasty and incredibly nutritious.<sup>52</sup> In some ways, this may be an easier method of harvesting sun7ower than eating the seeds, since they don't have to be shelled to sprout.

Sun7ower leaves are also edible, though their tough texture makes this diUcult with older plants unless the leaf is boiled, fried, or blended. It may be helpful to remove the tough center stem 6rst. Usually younger leaves work best for eating.

Unopened 7 ower buds can be prepared and eaten like artichokes. The greens surrounding the bottom of the bud can be peeled oCto reduce bitterness. Boil or steam buds and serve with butter.

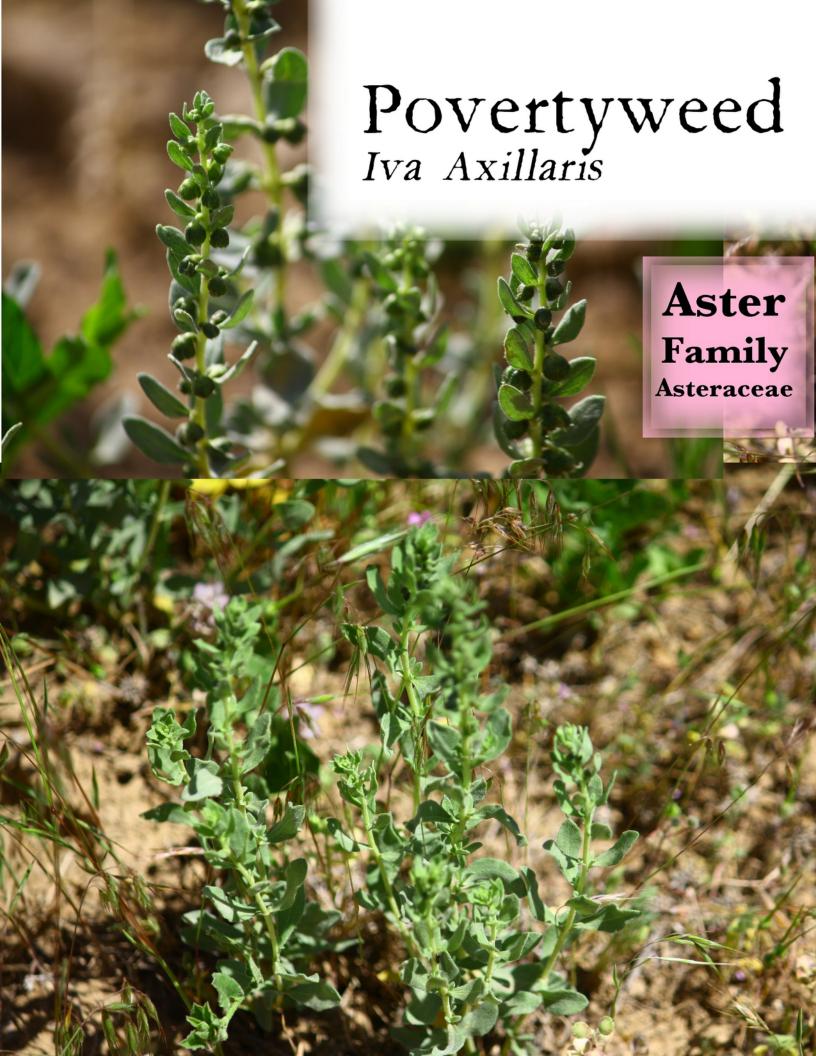
Sun7ower pedals are also edible, though a little bitter. The newer the pedal, the less bitter they are likely to be.

Young sun7ower stalks can be peeled and the center can be eaten like celery. This is best done before any 70wers bloom.

Medicinal: The crushed dried leaf powder of prairie sunzower can be used (either directly, in a salve, or in a lotion) can be used to dress sores and swelling on the skin.<sup>53</sup>

Ecological: Sun7ower seeds are a huge favorite of birds. Sun7owers are incredibly adaptable to their surroundings. If there is extreme drought, the 7owers tend to be small, sometimes only inches tall, but if they have suUcient water, they can grow into a full bush and have a large spray of 7owers. Sun7owers are so important to honey bees that many honey farmers grow large crops of sun7owers to feed their bees. Of the species honey bees seek out, sun7owers are one of the 6 rst.

Cautions: When mature and drying, the hairs on the stems of the sun7ower can become rather spiky before the drying is complete, and can hurt. There is no toxicity in these spines, but their pierce can occasionally draw a little blood.





#### **Povertyweed**, Iva axillaris

AKA deer root, supweed, and deathweed. But don't let this lat name scare you—povertyweed is a nicely scented, in indly medicinal plant. Povertyweed is native to North America.

## <u>Uses</u>

Primary use: treating mouth sores and throat ulcers.

Edibility: Other than the mild medicinal uses, I can 6nd no edible uses for povertyweed.

Medicinal: Povertyweed can be used to treat mouth and throat ulcers by chewing the fresh leaves and then swallowing the juice (the leftover pulp can be spat out). A leaf tea was often used by the Shoshone to treat stomachaches, cramps, and diarrhea. A wash of the tea can also be applied directly to treat rashes and itches.<sup>54</sup>

Ecological: Povertyweed thrives where many other plants won't, even in salty and alkaline soils, making it useful for dry climates where little else survives. However, it does seem to contain properties to discourage other plants from growing around it.<sup>55</sup> It can be used as a source of food for honey bees, and can also be used to add particular 7 avor to honey.<sup>56</sup> It mainly propagates by creeping rhizomes, so it is good for increasing soil biology and aeration.<sup>57</sup>

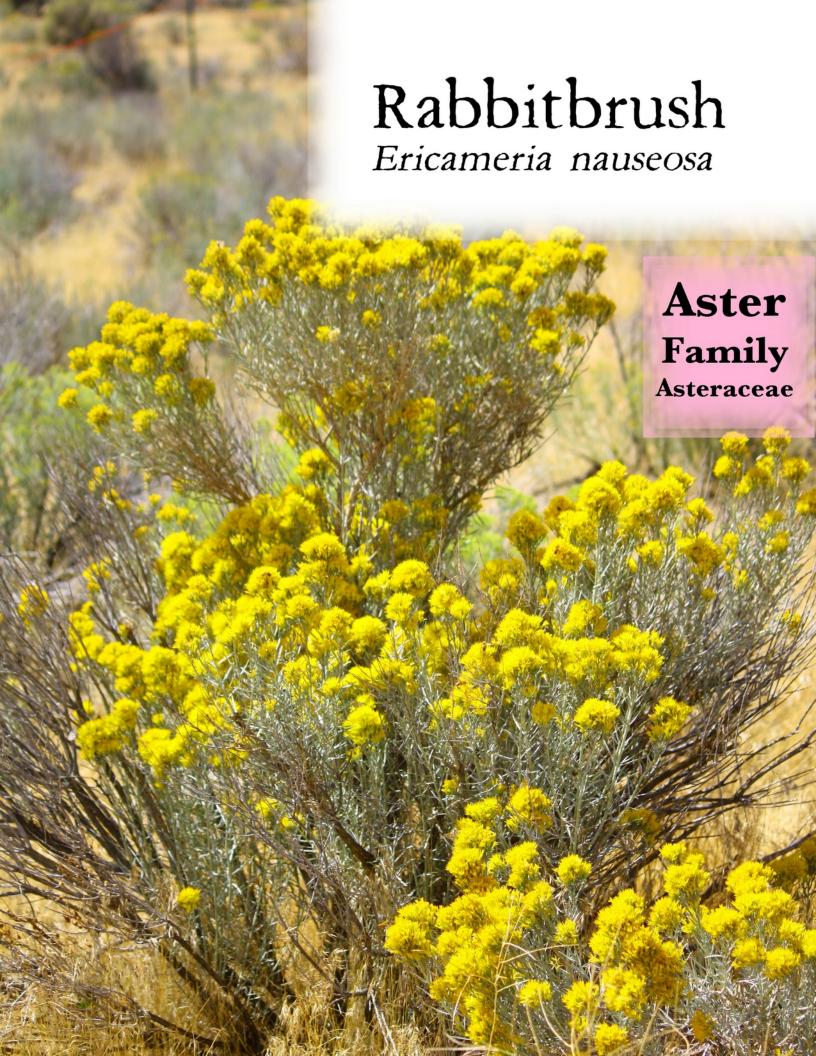
**Cautions**: Some of the Shoshone used povertyweed as a form of birth control and can even promote the abortion of a child, so pregnant women shouldn't take this plant internally. Those allergic to pollen should know it is an allergen.

https://books.google.com/books?
id=tg\_bPUzhJgoC&pg=PT114&lpg=PT114&dq=Iva+axillaris+uses&source=bl&ots=t6bjB3yHIN&sig=OnTMv3r7o8T8gYsTxgVJnHTVVgY&hl=en&sa=X&ved=oahUKEwiS5cLisbnNAhUJ8mMKHZErCcwQ6AEIRjAL#v=onepage&q=Iva%20axillaris%20uses&f=false

http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/invasive\_poverty\_weed

<sup>6</sup> http://www.pollenlibrary.com/Specie/Iva+axillaris/

http://biology.burke.washington.edu/herbarium/imagecollection.php?Genus=Iva&Species=axillaris





#### Rabbitbrush

Yellow Rabbitbrush Ericameria nauseosa

Rabbitbrush is a perennial shrub, native to the western united states. True to it's Latin name, rabbitbrush puts oCa pungent nauseating scent when in bloom, which attracts many of its pollinators.

## <u>Uses</u>

Primary use: Providing autumn pollen and feeding rabbits in winter.

Edibility: According to some sources, the leaves are edible, 58 but others suggest otherwise. 59 The 7 avor is intensely strong, and shouldn't be eaten in quantity, as it is better suited to medicinal purposes. Though rabbitbrush looks much like sagebrush, the taste is markedly unique, in that rabbitbrush has a buttery, almost butterscotch-like 7 avor, and a soft, comfortable texture in the mouth, while sagebrush feels dry and has more of a bitter sage 7 avor. I think if I had named the plant, I would have called it butter sage for this very reason. But since little is known about the eCects of eating rabbitbrush, it might be best to keep eating it to a minimal until more is known.

Native Americans chewed the roots or lower stem like chewing gum, and used the seeds in bread or mush. They also added white ashes from burned rabbitbrush to cornmeal to make "blue" bread.  $^{60}$ 

Medicinal: Rabbitbrush twigs can be mixed with liquid (or even boiled) to treat toothache, cough, and chest pain. The same can be done with the 70 owering stems to treat colds and tuberculosis, and again, the same is done with the leaves to treat colds, diarrhea, and stomach cramps. A wash of the plant has been used to treat external sores and eruptions in the skin, including smallpox. It has also been said to kill bacteria. All of these treatments must be done in small doses, however, as large doses may have negative eCects on the circulatory and respiratory systems. For toothache, a person might try simply chewing the leaves with the pained tooth to pack the mashed leaves into the sore area.

<sup>8</sup> http://grandcanyonnaturalhistory.com/pages\_nature/trees\_shrubs/rabbit-brush.html

http://www.wild7ower.org/plants/result.php?id\_plant=ERNAN5

Bureau of Land Management Anasazi Heritage Center Plant Guidez edition, page 18, http://www.blm.gov/style/medialib/blm/co/6eld\_oUces/ahc/documents.Par.7552o.File.dat/Plant\_Guide\_2013.pdf

<sup>61</sup> http://www.naturalmedicinalherbs.net/herbs/c/chrysothamnus-nauseosus=rubber-rabbitbrush.php

https://houseofaromatics.com/rabbit-brush-plant-pro6le/

Ecological: Robbitbrush provides both food and habitat for many wild animals. Jackrabbits eat a lot of rabbitbrush while the plant is dormant in the winter. In the spring, after the snow is gone, rabbitbrush can be found torn up with bark shredded, and a nest of rabbit scat surrounding each plant. Deer, elk, and several small mammals also eat rabbitbrush, and it can be eaten by cattle, sheep, and horses. In the winter, it is eaten a lot, because it continues to be enjoyed after most desert foliage is no longer available. Rabbitbrush is particularly hardy, and thrives in overgrazed areas. It can also be eaten by by animals well into the cold season, though some sources suggest it's not a favorite of most animals.

Rabbitbrush is know to be a great thing to grow in highly alkaline soils, and its presence may indicate alkali soil.<sup>63</sup> It also helps a great deal in erosion prevention and recovery.

The larvae of the black and yellow 70wer beetle known as hairy yellow-marked buprestid (Acamaeodera pulchella) eats rabbitbrush, and sometimes kills the plant by boring through the plant's stems. This insect larvae also eats pine, and sometimes juniper and cypress.

Rabbitbrush is an important pollen source for pollinator insects, <sup>64</sup> especially since it blooms in the mid-to-late fall after most plants have already 6nished their pollen cycles. <sup>65</sup>

Practical/Artistic: Rabbitbrush can be used to produce a form of rubber or latex, and it's use in this manner has been explored by experts as an alternative to chemical latexes.

Native Americans used the yellow 70wers to produce yellow dye. The dye was made by boiling the yellow 70wers for 6 hours or more, and then adding alum, along with the cloth/string/leather to be dyed. The leather, basket, or whatever was then soaked in the dye for about 12 hours.

Native Americans, such as the Hopi, wove baskets from rabbitbrush stems, <sup>66</sup> sometimes weaving them with other desert plants, such as willow, yucca and sumac.

Cautions: If consuming rabbitbrush do so in very small quantities. Strong rabbitrush leaf teas are said to make a person vomit, <sup>67</sup> and little is known about the edibility of the plant outside of medicinal purposes. For the inexperienced, this plant is probably best left to the rabbits.

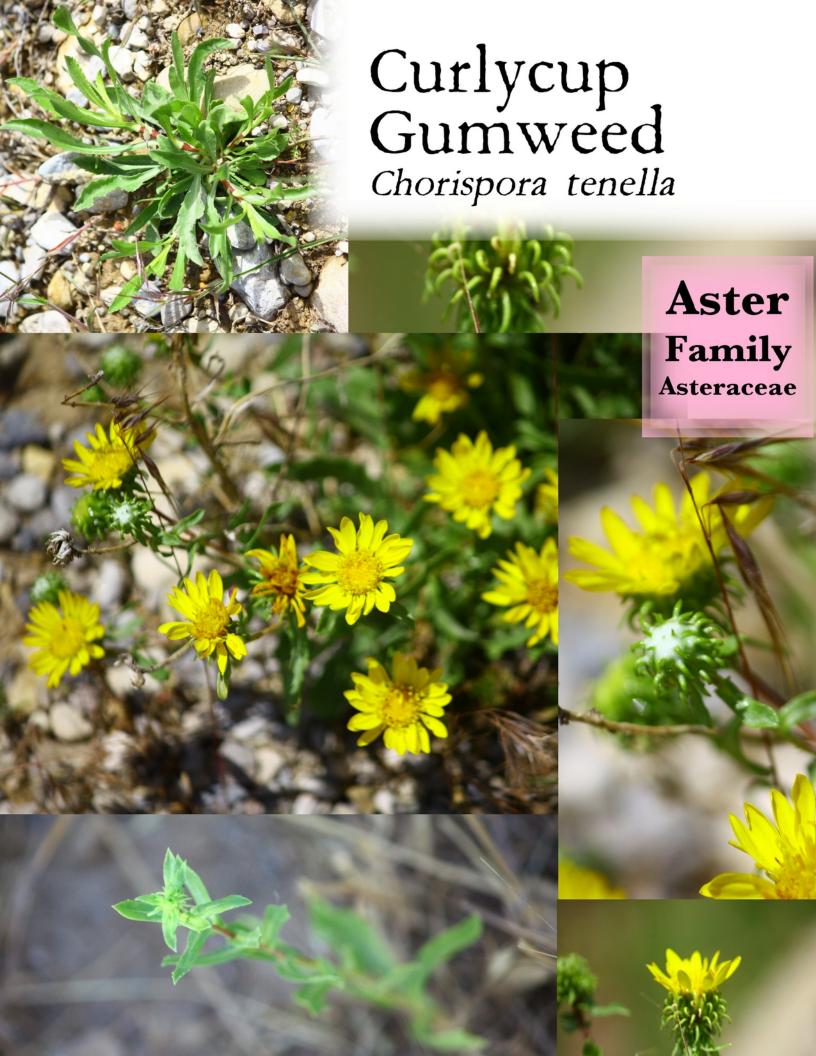
<sup>63</sup> http://plants.usda.gov/plantguide/pdf/pg\_chvi8.pdf

https://eco.confex.com/eco/2009/techprogram/P19893.HTM

http://www.fs.fed.us/wild7owers/plant-of-the-week/ericameria\_nauseosa.shtml

<sup>66</sup> http://www.basinandrange.org/basin-and-range-news/category/plants

<sup>67</sup> http://stoneageskills.com/ethnobotany/ethnobotanyi.html





#### Curlycup Gumweed, Grindelia squarrosa

Also called Grindelia or sticky gumweed. It is a biennial or short-lived perennial, native to western and central North America.

## <u>Uses</u>

#### Primary use: Itch cream.

Edibility: Curlycup gumweed is not a good choice for ingestion except for particular medicinal purposes. Though only mildly toxic (and therefore harmless in very small quantities), eating large quantities could be harmful to people or animals.

Medicinal: This is where gumweed has its real value. Curlycup gumweed is great as a treatment for poison ivy, poison oak, stinging nettle, mosquito bites, and other itchy skin irritations. It can also be applied to mild burns, skin eruptions, and eczema. In all cases, it is applied directly or by mashing into pulp, mixing with water or oil. Basically, the point is to apply the sticky juices of the 70wer/bulb to the eCected area of skin like lotion.

One eCective itch creamrecipe is to mix half gumweed 70wers or buds and half coconut oil, and boil the gumweed in the oil for 5-10 minutes, and then let it cool before chilling it. Then store it somewhere below 76 degrees Fahrenheit (unless you want it to be a liquid). Whenever you have a skin irritation or itch (mosquito bite, etc), rub a little of the cream on the itch. Within minutes, the itch will subside for several hours, after which you can apply more if necessary.

According to some, curlycup gumweed can be taken internally for asthma, bronchitis, coughing, and congestion. This is usually done by soaking crushed (or uncrushed, for lighter dosage) gumweed in liquid, and then drinking the liquid. This should probably be done in small quantities, however, perhaps a teaspoon once or twice a day, since eating gumweed can be toxic. A better treatment is to breath the fumes of gumweed. Oil from the 70wers can be used in an oil diCuser for respiratory problems. The 70wers can be boiled, and the steam carefully inhaled for asthma relief, since the 70wers were once used in cigarettes to treat asthma.

<sup>8</sup> http://wildfoodgirl.com/2010/expectorating-with-sticky-gumweed/

http://www.stillpointaromatics.com/grindelia-squarrosa-essential-oil-aromatherapy

o http://www.wild7ower.org/plants/result.php?id\_plant=GRSQ

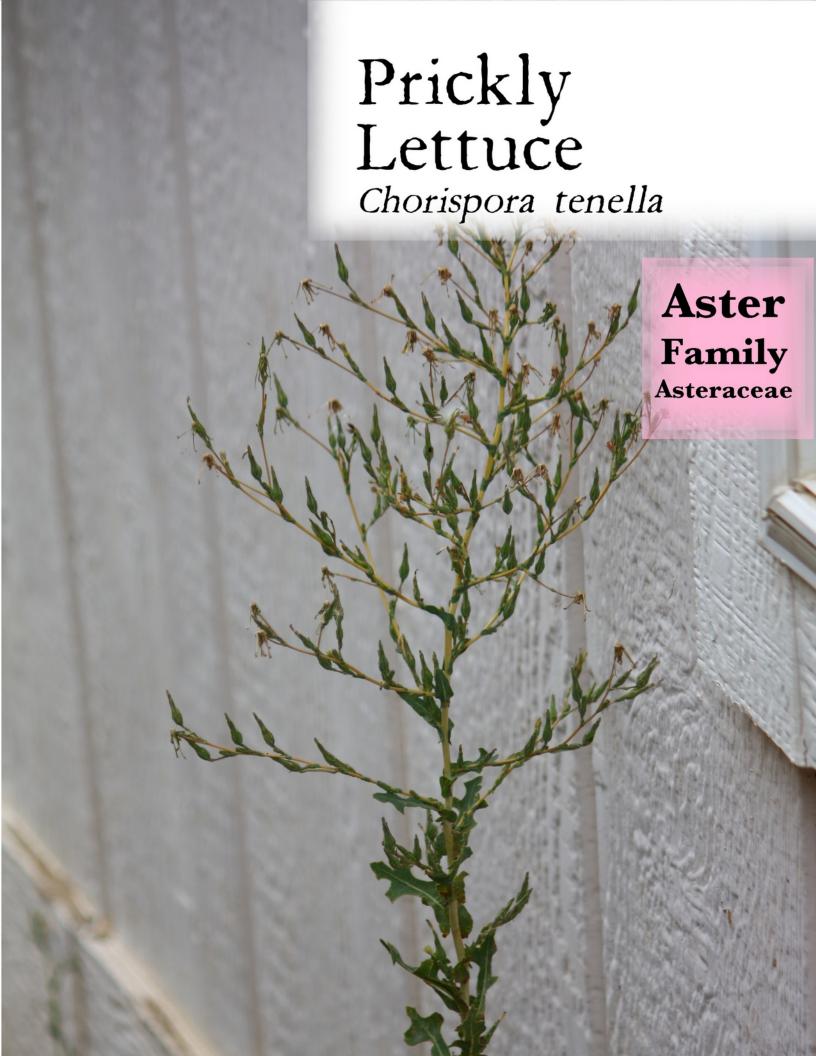
Other sources suggest that taken internally, curlycup gumweed can be used to slow the heart rate or desensitize nerve endings,<sup>71</sup> though people with problems in their heart or kidneys shouldn't take it.

Artistic/Practical: Curlycup gumweed 70wering heads and pods have been used for making yellow or green dye.<sup>72</sup>

Cautions: Curlycup gumweed is mildly toxic, and if taken internally for medicinal purposes, should be taken in small quantities only.

<sup>71</sup> https://keys2liberty.wordpress.com/tag/gumweed/

<sup>72</sup> http://www.pfaf.org/user/Plant.aspx?LatinName=Grindelia+squarrosa





#### Prickly lettuce, Lactuca serriola

AKA wild lettuce, milk thistle, compass plant, and scarole. Prickly lettuce is an annual or biennial, native to Europe, Asia, and Africa, and is the closest wild relative to domestic lettuce.

## <u>Uses</u>

Primary use: White sap used to eliminate warts and moles.

Edibility: The very young leaves are edible, but quite bitter. Though likely the ancient ancestor of modern lettuce, it's one of the least likable edibles for taste. That said, it's likely more nutritious, too. Young, unopened buds are said to be palpable. If you ever see lettuce bolt and go to seed, you'll see the remarkable similarities between romaine and prickly lettuce.

Medicinal: Sometimes called opium lettuce, prickly lettuce (especially the white sap) has mild hallucinogenic, hypnotic, even narcotic properties (though not addictive). Usually it is used in small quantities as a sedative or pain reliever, but don't use too much, or you may discover why some describe it as opium lettuce. Personally, I highly recommend never ingesting the sap. Stick with the young leaves, if you are going to eat any part of it. Though some modern herbalists dispute the opium qualities of prickly lettuce, I'd suggest not messing with it.<sup>73</sup>

Young leaves can be dried and used in a leaf tea to stimulate milk production in nursing mothers. The tea can also be used to treat insomnia.<sup>74</sup> Leaves also lower blood-sugar levels, so they may have use for diabetics or those with hypoglycemia. The leaves can also reduce muscle spasms, and be diuretic, which means it increases urine 70w.<sup>75</sup>

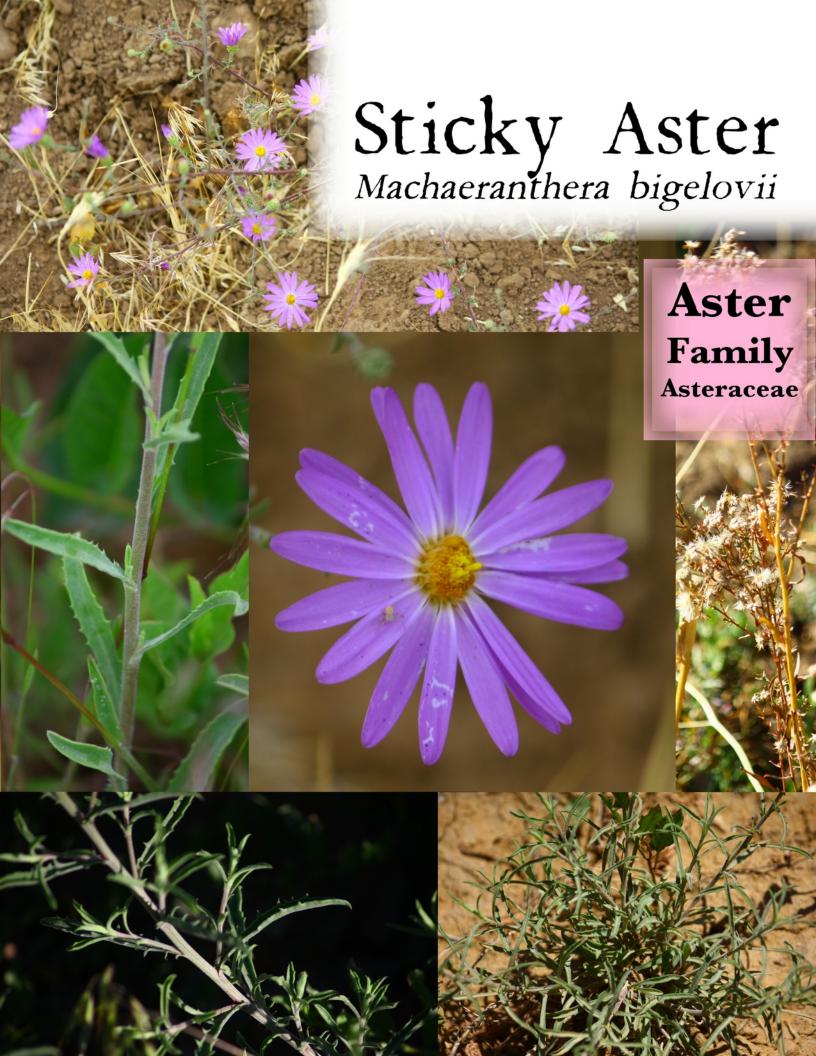
That said, the sap does have external uses that may be worth exploring. For centuries, the sap has been placed on warts and moles to get rid of them. Though few modern people have tried it, the application is directly on the wart or mole several times per day for several months (hence few moderns trying it) or until the mole or wart is gone. The sap tends to grow thickest when the plant is 70wering. When exposed to air, the sap dries fairly quickly into a thick latex.

http://www.foragingtexas.com/2008/07/prickly-lettuce.html

http://medicinalherbinfo.org/herbs/PricklyLettuce.html

http://montana.plant-life.org/species/lactuca\_serrio.htm

Cautions: Be careful ingesting this plant—especially the sap. Don't eat the sap straight at all. And if you're going to eat the leaves, don't eat them when you're going to be driving, operating machinery, or other activity where awake-ness and attention are required for safety. The same kind of sap is found in all lettuce—especially the romaine type lettuces, but in prickly lettuce, the amount and concentration is much higher. My recommendation is not to eat anything more than the youngest leaves, and only use the sap for external or practical (non-ingesting) purposes.





#### Sticky Aster, Machaeranthera bigelovii

AKA Bigelow's Tansy-aster or Bigelow's False Tansy-Aster

Sticky aster is a biennial or perennial native to the western United States.

## Uses

Primary use: beauti6cation and inviting bene6cial pollinators.

Edibility: None known.

Medicinal: Native American tribes used sticky aster as a stimulant, as well as gastrointestinal and respiratory aid. They were also used for throat and nose troubles, though I'm not sure of the method of preparation.

Practical/Artistic: The 70wers of sticky aster can be used to make necklaces.

Ecological: Sticky aster is very drought tolerant, and helps prevent erosion. It's a great pollinator species, attracting many pollinators, including honey and leaf-cutter bees. <sup>76</sup> As a vulnerable <sup>77</sup> (not quite, but nearly endangered) native species, sticky aster should be encouraged to grow as much as possible.



# Scotch Thistle Onopordum acanthium





#### Scotch Thistle, Onopordum acanthium

AKA cotton thistle. Scotch thistle is an annual or biennial (depending on how late in the season they germinate), native to Eurasia.

## <u>Uses</u>

#### Primary use: Edible raw fruit and peeled stem.

Edibility: The whole plant is edible raw, steamed, or cooked, but its also terribly spiny. The trick with thistle is to know how to harvest it without getting pricked. Flower buds can be cooked as a substitute for artichoke (which is very closely related).

Peeled stems can be cooked or eaten like celery. They can be harvested by cutting oCthe stock (wear gloves, because the thistle will jab you), running a knife down the length of the stem, and peeling the center out. That stalk can be eaten raw or cooked. Similarly, you can peel the greens oCthe leaves, leaving only the center midrib of the leaf. Again, eat it raw or cooked.

Some people take the whole plant and roast it over the 6re, and then eat the cooked core. Green Deane of EatTheWeeds.com recommends cooking the young (about a foot tall) stalk and adding butter and salt.<sup>78</sup>

The inner core of the 70wer stalk is supposed to be quite tasty, and fairly easy to harvest. The bottom of the 70wer bud can also be harvested without two much trouble.

Seeds can be harvested for oil (they are about 20% oil) that can be used like olive or vegetable oil in cooking.

Medicinal: Scotch thistle is known to have a very positive eCect on the heart, and can be consumed as a heart tonic. The juice can be used to treat ulcers<sup>79</sup> and cancers.<sup>80</sup> As an astringent, drinking liquid soaked in Scotch thistle root can reduce mucous production in the mouth and throat. The leaves and root were historically used to treat rickets in children, as well as for treating a crick in the neck,<sup>81</sup> though I don't know the speci6c method of application for the crick. One might try a lotion or salve applied

<sup>78</sup> http://www.eattheweeds.com/thistle-touch-me-not-but-add-butter-2/

<sup>79</sup> http://scholarworks.umass.edu/cgi/viewcontent.cgi?article=1093&context=jmap

Bo http://www.naturalmedicinalherbs.net/herbs/o/onopordum-acanthium=scotch-thistle.php

Bi http://botanical.com/botanical/mgmh/t/thistlii.html

topically, though drinking a tea or juice from the plant wouldn't hurt.

The 70wers can be boiled to concentrate the juices, and the juice can be used for treating eye diseases, as well as being made into lotions for treating wounds.

Ecological: In suUcient quantity, Scotch thistle can be used as a fence or barrier for deer and other garden-eaters, though this is best done upwind of the protected area, since the seeds will continue to spread.

Practical/Artistic: The stalk can be used to make cordage (rope). The down (7uC) can be used for feather guides for arrows. The Seminole Indians used the stems to make blow darts. The pedals can be used for dye or food coloring. Stem hairs have been used in making pillows. The oil from the seed can be used as fuel for lamps. 82

Cautions: Watch out for the spines, they can be brutal. Some people suCer from sensitivity toward thistle that makes contact even more painful, though sensitivity to the plant itself seems to be rare. Also, though edible like the rest of the plant, some people have reported that eating the roots gives them gas, so if that concerns you, you'd probably best cook the root.





#### **Sowthistle**, sonchus oleraceus

Pronounced sow (like the pig)-thistle. AKA common sowthistle, sow thistle, smooth sow thistle, annual sow thistle, hare's colwort, hare's thistle, milky tassel, milk thistle, soft thistle, and swinies. Sowthistle is an annual, native to Europe and western Asia.

## <u>Uses</u>

#### Primary use: Edible raw leaves.

Edibility: Like it's cousin, the dandelion, all parts are of sowthistle are edible. § The word oleraceus basically translates, "Potherb," and sowthistle has been cultivated for centuries alongside lettuce, to be used much the same way. Also like dandelion, the plant is best eaten young, but can still be cooked and eaten old. But unlike dandelion, sowthistle tends to be less bitter than lettuce.

Medicinal: Sowthistle is said to help increase menstrual 70w. It's also good for the liver. It has some purgative properties. The gum has been used to help kick opium habits. The leaves can be poulticed and applied to swelling and in7ammation. A tea or soaking of the leaves can be used to help reduce fever. The latex white sap can also be used like prickly lettuce to treat warts and moles. A tea from the leaves is said to calm the nerves. Some have also used it as a sedative or for toothache. Where dandelions are not available, sowthistle can be used for the same medicinal properties.

Ecological: Sowthistles can grow where few other plants will survive, including compact roadsides, overgrazed 6elds, and heavily mowed lawns, making it a potential land restoration plant.

Cautions: Though very edible, sowthistle shouldn't be eaten in great quantities, as it has been associated with instances of colic and tenesmus. Also, because it helps increase menstrual 70w, it should NOT be consumed while pregnant. Because it is so common in roadsides, lawns, and gardens, avoid plants near food or vehicle traUc, and make sure no chemical sprays, fertilizers, or insecticides were used before eating. Sowthistle can easily absorb excess nitrates from chemicals that can be harmful to

http://www.eattheweeds.com/sonchus-sow-thistle-in-a-pigs-eye-2/

<sup>84</sup> http://www.pfaf.org/user/Plant.aspx?LatinName=Sonchus+oleraceus

humans.  $^{85}$  Those with an allergy to sowthistle may 6nd that it behaves like stinging nettle, leaving a 7ea-bite-looking rash where it is brushed.  $^{86}$ 

http://earthmedicineinstitute.com/more/library/medicinal-plants/sonchus-oleraceus/

<sup>86</sup> http://www.thedesertecho.com/blog/edible-weeds/





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#### Common Dandelion, taraxacum offcinale

Dandelion is a perennial, native to Europe and Asia, introduced in the (probably) 1600s.

## <u>Uses</u>

Primary uses: edible 70wers and leaves, and an aid to digestion.

Edibility: All parts of the dandelion are edible, raw or cooked, though some parts are more tasty than others. Flowers and fresh leaves are the tastiest part, especially if picked in early spring. The 6rst leaves to grow as the ground begins to warm have very little, if any, bitterness, and the very 6rst 7owers are really quite sweet. As the season progresses, they (like most of the Asteraceae family) tend to become more bitter the later it gets. Dandelions were brought from the old world, but not by accident. They were brought by early settlers, pilgrims, and pioneers because they are incredibly nutritious and grew well while winter supplies diminished and spring crops hadn't yet matured.

Dandelion is de6nitely a superfood, as it has considerably more vitamins, minerals, and health properties than spinach and other common healthy greens.

Flowers can be used to make dandelion jelly. Just make sure you actually strain the 70wers like the recipes suggest. The chunks can turn the jelly bitter. Flowers can also be dipped in scone batter and fried to make dandelion fritters (my kids love these).

Leaves are good raw in sandwiches with other stuC(such as tomatoes, onions, etc), and early leaves are great in salads with other greens. Leaves can also be cooked like spinach. Doing so will eliminate bitterness from the leaves. Leaves are also used in green smoothies, or can also be dried and/or frozen for future used.

The root is sometimes dried, crushed, and cooked like coCee, though I've never tried this. The root has more medicinal than edible qualities.

The seeds can be easily pulled from the white 7uCand eaten like sesame or poppy seeds, cooked or raw.

Stems taste awful, are not often eaten, and probably shouldn't be consumed in great quantity, since the milky latex inside has diarrhetic properties. Dandelion stem is better used medicinally.

Medicinal: Dandelions are well known for their use in helping digestion, beginning with it's ability to stimulate the appetite, including increasing the appetite for other healthy foods, kickstarting the digestive system into full gear, producing fresh saliva and stomach juices. The liver is activated, preparing to clean whatever comes through. This all comes from dandelion's role as a mild bitter herb. As such, Dandelion also boosts the immune system, and especially rejuvenates the gall bladder and kidneys. Dandelion is a great help to those with type 2 diabetes, since it helps stabilize sugars in the blood. The root helps increase inulin in the blood. The dandelion is considered an antidote to excessive sugar. Overall, dandelion helps purify the body of many undesirable toxins. <sup>87</sup>

The 70wer concentrates vitamin D. The bitterness in a dandelion cleans the inner organs, kidneys, pancreas, gall bladder, liver. It helps eliminate gallstones and kidney stones. Soak the 70wer for two days in honey or agave and it makes a fantastic jam. The smaller the leaves, the better the bene6ts, and the less bitter the taste.

#### According to WebMD,

"Dandelion is used for loss of appetite, upset stomach, intestinal gas, gallstones, joint pain, muscle aches, eczema, and bruises. Dandelion is also used to increase urine production and as a laxative to increase bowel movements. It is also used as skin toner, blood tonic, and digestive tonic. Some people use dandelion to treat infection, especially viral infections, and cancer... Dandelion contains chemicals that may increase urine production and decrease swelling (in ammation)." 89

Dandelion root issudas a detoxier. According to one source, it, "clean out various body poison associated with constipation, join Cammation, gout, acne, Cuid retention, and urinary disorders."

Dandelion less can be made into tea to help calm an upset stomach, and dandelion sponds the milky latex inside it, has been used to reduce warts and moles by regular application directly to the wart.

Dandelion ha also occasionally been used as an antidepressant. It's lao rich irpotassium?

Artistic/Practical: Dandelions make lovely yellow and green dyes.

By http://www.blessedherbs.com/resources/dandelion-backyard-herbal-remedy/

https://www.youtube.com/watch?v=7wkhuLdjas#t=3.592607

by http://www.webmd.com/vitamins-supplements/ingredientmono-706-dandelion.aspx?activeingredientid=706

oo http://www.everygreenherb.com/dandelion.html

or https://www.theguardian.com/lifeandstyle/gardening-blog/2015/may/12/dandelions-pollinators-wildlife-garden

http://www.blessedherbs.com/resources/dandelion-backyard-herbal-remedy/

Ecological: Dandelion 70wers are a staple of honey bees. Though most people don't know this, bees don't pollinate all 70wers. They're a little picky, actually, and dandelion is one they gravitate toward. Plus, dandelions are one of the 6rst 70wers showing up in the spring, so bees, just emerging from the hive and desperate for food, storm the dandelion patches. Many other pollinators prefer dandelions as well, so a garden containing many dandelions is likely to get all the pollination it needs. Rather than competing with dandelions, other 70wers are greatly bene6ted by their presence.

Dandelion seed is a favorite of many 6nches, who will come poking your dandelion 7uC for the crunchy meal.

Dandelion is a colonizer of disturbed habitats, and can be an eCective plant for increasing carbon in soil. It's also a favorite of earthworms, honeybees, and other bene6cial bugs.

Cautions: Gratefully, while dandelion has many look-a-likes, none are known to be toxic, and all are related and have similar properties. As with any single plant, however, caution should be taken in the quantities eaten. But mixed with other healthy foods, dandelion is one of the greatest additions to a healthy diet. One major caution: since dandelion is easily identified and extremely prolified, it can be found in nearly any yard anywhere. Foragers may become careless and eat dandelion from a friend's house before learning that it has been sprayed with herbicide. Sprays of nearly any kind make dandelions toxic, but herbicides are particularly noxious. Always check with the land owner/maintainer before eating dandelion away from your own property.





#### Salsify, Tragopogon dubius

Also known a yellow salsify, westersalsify, goat's beard, wild oysterplanted common salsify. Salsify is an annual (though sometimes biennial), and is native to Eurasia, but introduced into the United States in the early 1900s as a garden plant.

## <u>Uses</u>

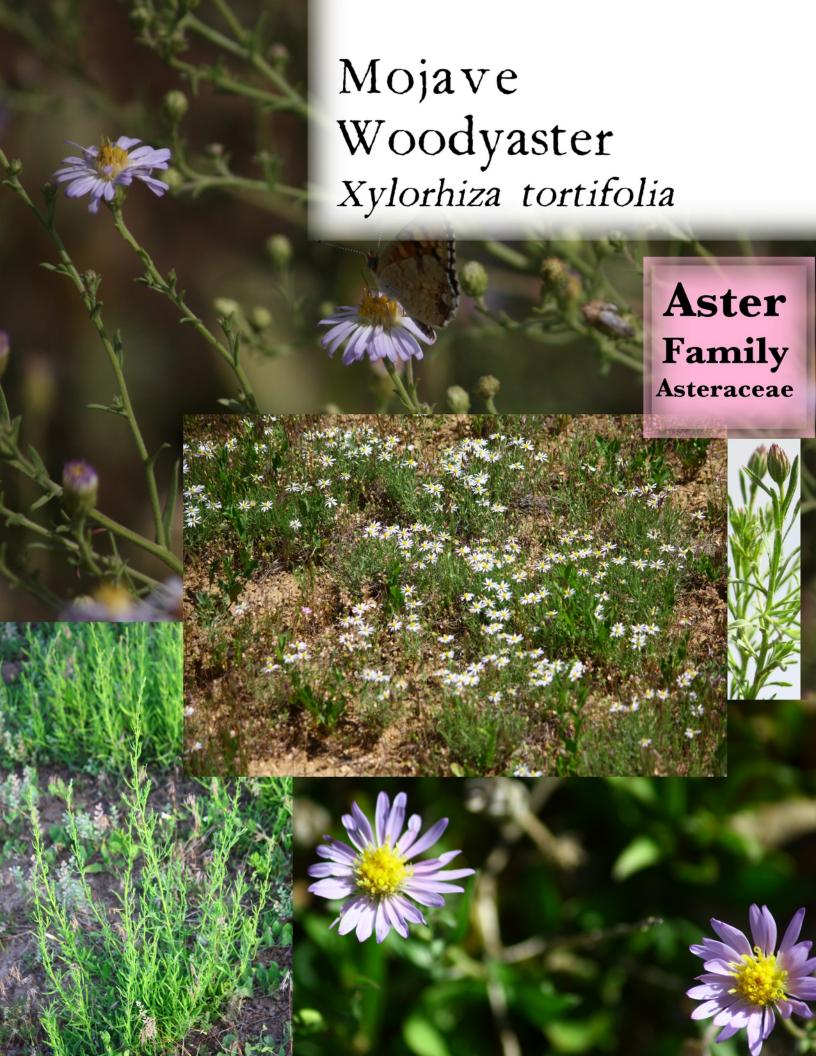
#### Primary use: Edible leaves and lower stem.

Edibility: The whole plant is edible. Salsify leaves, stem and root can be eaten raw or cooked, 94 and have a mild 7 avor. Some say the root/lower stem tastes like oyster, earning it the nickname, "oyster plant." As with most wild edibles, the younger it is, the better it tastes.

Medicinal: None known.

Ecological: Salsify can live in almost any plant community type (beach, forest, prairie, grasslands, etc), and while it can spread quickly, distribution is usually spread rather thin, so that it doesn't invade other species.

Salsify is a good sacri6cial plant. When black aphids (Brachycaudus tragopogonis) are present on a property, they will ignore other plants to live on and eat salsify. In this case, salsify plants should usually be left alone, as generations of aphids will live and die on one salsify, leaving other plants unharmed.





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### Mojave Woodyaster, Xylorhiza tortifolia

AKA Mojave Aster, Desert Aster, and Wild Aster.

Mojave woodyaster is perennial, referred to either as an herb or a subshrub, native to western North America.

## <u>Uses</u>

#### Primary use: inviting bene6cial pollinators.

Edibility: Though Mojave woodyaster doesn't seem to have any notable edible properties, nor any toxic properties, some sources suggest that the plant can be made into tea to use as a substitute for caCeinated coCee or teas:

Medicinal: I haven't found any speci6c medicinal uses for Mojave woodyaster, but the roots can be burned to deter mosquitoes.

Practical/Artistic: The Havasupai used the plant as a sort of incense, for fragrance. Also, the plant was used for perfume, or dried and placed in clothing to overpower body odors.<sup>96</sup>

Ecological: The plant is a common habitat/food of the Desert Checkerspot (Charidryas neumoegeni) butter7y larvae. Mojave aster seems to be quite good at inviting a variety of pollinators, especially if there is water nearby. The Natureserve database lists Mojave woodyaster as a native vulnerable species.<sup>97</sup>

<sup>95</sup> http://www.fs.fed.us/wild7owers/plant-of-the-week/xylorhiza.glabriuscula.shtml

Weber, Steven A. and P. David Seaman, Havasupai Habitat: A. F. Whiting's Ethnography of a Traditional Indian Cultureson, Arizona: The University of Arizona Press, 1985) page 104, 250

http://explorer.natureserve.org/servlet/NatureServe

### Bean Family—Fabaceae

(Fuh-bay-see-eyor fuh-bay-see-e)e

Though many of its edible qualities are obvious, the bean family has a massively important role in the environment. You know the nitrogen fertilizers people spray all over their lawns? Well, turns out that's a completely pointless activity if you simply allow something from the bean family to grow in the lawn.

But do people really want beans growing in their lawns? Maybe not, but that's okay, there are some really friendly ground covers that get along well with grass. Maybe you've heard of clover? Yup, bean family. A lawn intermittently mixed with clover is a very happy lawn.

That's because members of the bean family (legumes) are nitrogen 6xers. That means they pull nitrogen from the air (basically the main non-oxygen element in the air around us) and put it into the soil. Most plants don't do that like the bean family. Nitrogen makes really happy grasses. But don't assume that's just referring to your Kentucky blue grass. That also includes, wheat, rice, barley, and my giant favorite, corn. More to come on that in the grass family—the point is, grasses love the bean family.

And just so we're clear about who is included in the bean family, Fabadeae also include: Peas, Beans (of just about all kinds, including all the dry beans and green beans—but not coCee and cocoa beans), Alfalfa, and as mentioned, Clover.

Though not all beans are edible (some are even a little toxic), most are both nutritious and delicious, and many such plants also include edible leaves, 70wers, and roots. In fact, most edible bean leaves taste a good deal like garden peas.

### Purple Milkvetch, Astragalus agrestis

AKA purple loco nd >eld milkvetch. Purple milkvetch peremial, native to western and northern North America.

### Uses

Primary use: nitrogen 6xation and inviting early pollinators.

Edibility: None! Poisonous! Some other types of milkvetch are edible, but this is one of the potentially toxic ones.

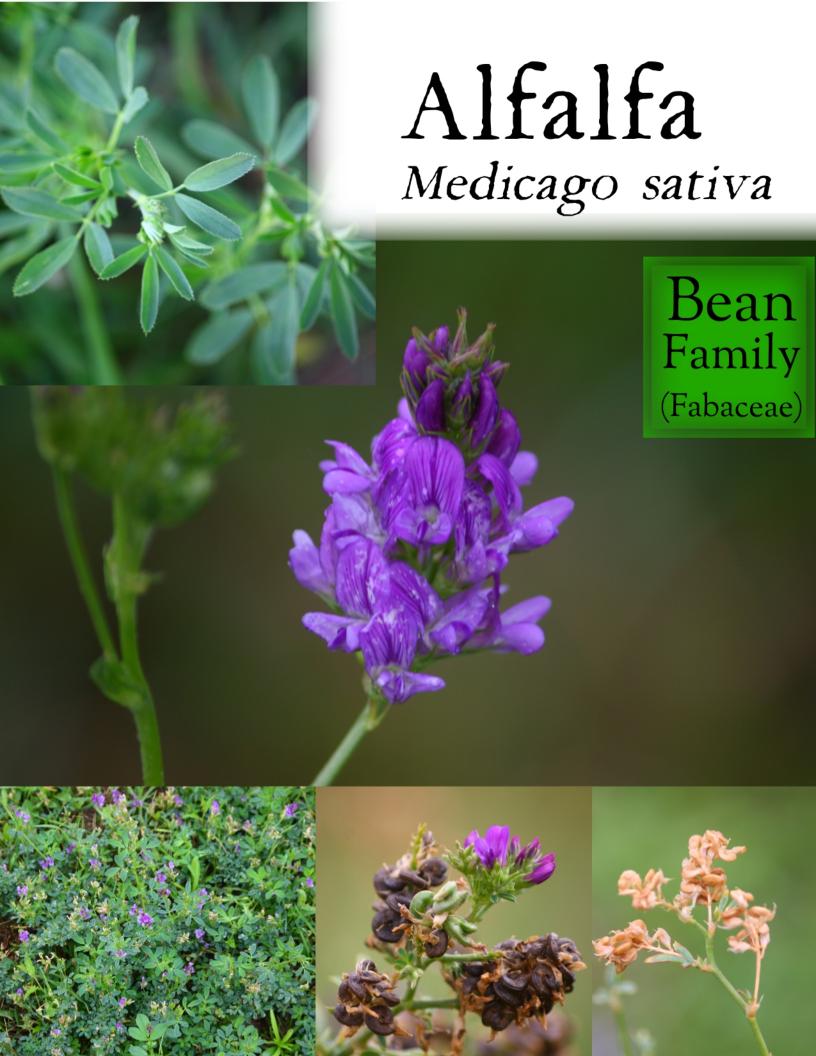
Medicinal: None known.

Ecological: As a member of the bean (fabaceae) family, purple milkvetch is a good nitrogen 6xer, and as a perennial, will return to continue nitrogen 6xation year after year. This means it will act as natural fertilizer for surrounding species—especially for grains, corn, and other plants that require a lot of nitrogen. As an early bloomer, purple milkvetch also invites early pollinators, and provides a stunningly pretty little pink 70wer.

Cautions: Purple milkvetch is highly toxic, sometimes lethal, to many animals, and is named purple loco or locoweed (loco means "crazy" in Spanish) because it's said to make them crazy. Though little has been researched about it's toxicity to humans, this plant is best left uneaten. Audubon describes this plant, "One of the most dangerously poisonous plants on western ranges, it is lethal to livestock." The potentially poisonous chemicals in this plant may include nitrotoxins, selenium, and/or alkaloids, some of which may synthesize into swainsonine, which can be both lethal and addictive.

<sup>98</sup> Richard Spellenberg, The Audubon Society Field Guide to North American Wikels: Western Regio(New York/Toronto Canada: Random House of Canada Limited, 1979, 1992) pg. 507

og http://montana.plant-life.org/species/astrag\_agres.htm





# <u>Alfalfa</u> – medicago sativat<del>raditional alfalfa</del> as is used in agriculture.

Alfalfa is a peremial, introduced from probably) the Mediterranean around 1850.

### <u>Uses</u>

#### Primary use: raw sprouts from seed.

Edibility: Raw alfalfa sprouts are a favorite on salads, in sandwiches, and in soups, or anywhere fresh green peas, lettuce, or spinach might be used. The young leaves and branches (light green) can be used raw in a similar manner, but once they mature to dark green, it's best to cook them before eating. Drying and cooking the leaves in soup is also a common use of alfalfa. Flowers are delicious raw or cooked. Leaves, cooked or dried, can be made into tea that can be sweetened with honey.<sup>100</sup>

While seeds are often sprouted for eating, dry seeds can also be ground and mixed into cereal 70urs for bread.

Medicinal: Some sources suggest that while alfalfa has good practical and edible qualities, it is not medicinal. Tot But others disagree. Either way, all agree that it has great general health bene6ts as a dietary aid. Dr. Edward F. Group of the Global Healing Center lists among it's medicinal/health bene6ts:

- Detoxes the urinary tract
- Purifies the blood and liver
- Has a strong alkaline eCect on the body
- Promotes bowel movement regularity and healthy hydration
- Eases general digestive problems

<sup>100</sup> http://www.ediblewildfood.com/alfalfa.aspx

or Michael Moore, Medicinal Plants of the Mountain WeMuseum of New Mexico Press, 1979, pg. 21 (the book admits that though not strictly "medicinal," alfalfa does have strong health bene6ts, and acts as a good health tonic.

- Contains high levels of enzymes for food digestion and assimilation
- Lowers bad cholesterol, and reduces incidence of atherosclerotic plaque
- Supports healthy blood sugar levels, especially when taken with manganese
- Supports the pituitary gland<sup>102</sup>

Alfalfa is a good source of calcium and trace minerals, as well as vitamin A and folic acid. It can be a good (though minor) supplement for those with arthritis, rheumatism, colitis, ulcers, and anemia.

Alfalfa has been used as a dietary aid for Celiac Disease. Some sources suggest that alfalfa tea is safe during pregnancy, <sup>103</sup> but others say that pregnant women should avoid alfalfa.

Ecological: Alfalfa is often used as a cover crop by farmers because of it's prolific ability to protect, nurture, and enhance soil production. As a member of the fabaceae family, it is a nitrogen 6xer, so it adds nitrogen to the soil, to the beneft of other plants, particularly for wheat, corn, and other grasses. It also has a strong taproot, which reaches deep, penetrating and vitalizing compact or overgrazed soils. It can also be dried and used for mulch, or fed to grazing animals, rabbits, and other herbivorous creatures. It's also enjoyed by deer, elk, and jackrabbits, making it a potential sacrificial plant for wild grazers, who may eat the alfalfa instead of your desired crop.

Cautions: As stated above, pregnant women should avoid alfalfa, as well as those with lupus, autoimmune disease (or those just being treated for autoimmune disease), hormonal cancer, or gout. Of Since alfalfa contains saponins (common in many deep greens), alfalfa shouldn't be eaten in heavy quantities. In other words, add them to a salad, but don't make a large salad composed entirely of alfalfa.

http://www.globalhealingcenter.com/natural-health/bene6ts-of-alfalfa-leaf/

o3 Michael Moore, Ibid.

no4 http://www.globalhealingcenter.com/natural-health/bene6ts-of-alfalfa-leaf/

### Brassicaceae—Mustard Family

Usually just called brassica, pronounced brass-ih-kuh, but the long word is pronounced either brass-sis-ee-I (emphasis on the "sis") Brass-ih-caey-ee Brass-ih-caey-I

The brassicaceae family (we'll call it the brassica<sub>105</sub> family for short) is a personal favorite, because according to many sources, all brassicaceae (we'll call them brassicasfor short) are edible—seeds, pods, leaves, 70wers, and root. This may be why brassicas are called cruciferous vegetables Though there are many diCerent genus, species, and varieties, all are edible. The brassica family is sometimes called the mustard family, the broccoli family, or the cabbage family, since they are some of the most prominent members. Once you get to know the plants a little, you'll 6nd that they all have strong similarities, and it's not diUcult to identify wild brassicas in the wild. In fact, brassicas might be the easiest to identify of all plant families.

The brassica family is huge, with over 4000 known species, but let me list some of the ones that may be familiar to you:

Broccoli	Radishes	Mustard	Collard greens
Cauli7ower	Parsnips	Garden Cress	Horseradish
Cabbage	Rutabaga	Water Cress	
Brussel sprouts	Kale	Arugula	
Turnips	Bok choi	Canola	

I know, if you're like me, the temptation is to ask, "Wait, so what vegetables aren't

There is a genus in the brassicaceae family called brassica, so don't be confused by my calling members of the brassicaceae family brassicas. I do so because brassicaceae is burdensome and diUcult to pronounce, while brassicais simple, since it sounds like a mix of the words brassand Jessica. Besides, for the purposes of this book, nearly all brassicas are created equal to some extent, and you'll get most of the same bene6ts from whatever species or variety you eat.

#### brassicas?"

But I think you'll 6nd that virtually all wild brassicas taste like one of the common vegetables above. In fact, it's kind of fun to try to match the new with the known. I've found that most brassicas taste like either broccoli or radishes, but a more diversely-dieted tongue may 6nd taste similarities with any one of the known brassicas.

#### **Identifying Brassicas**

It may take a little practice to be able to identify brassicas instantly, but knowing just a few rules of thumb can help you start that practice:

- Brassicas almost always have relatively small (inch or less, but average of about Y in ch) sized 70wers with four pedals and four sepals (the green not-quite-pedals under the pedals), and six stamens (stamens are the little pegs poking out of the center of the 70wer), two of which are short, and four of which are taller.
- That's pretty much it. But if you can positively identify a tall brassica (like broccoli) and a short one (like alyssum or pepperweed), you'll notice that they all look kind of similar. In fact, when I plant my turnips, broccoli, and radishes in the same garden spot, I often have a hard time telling which is which until they get 70wers, thick roots, or seedpods.

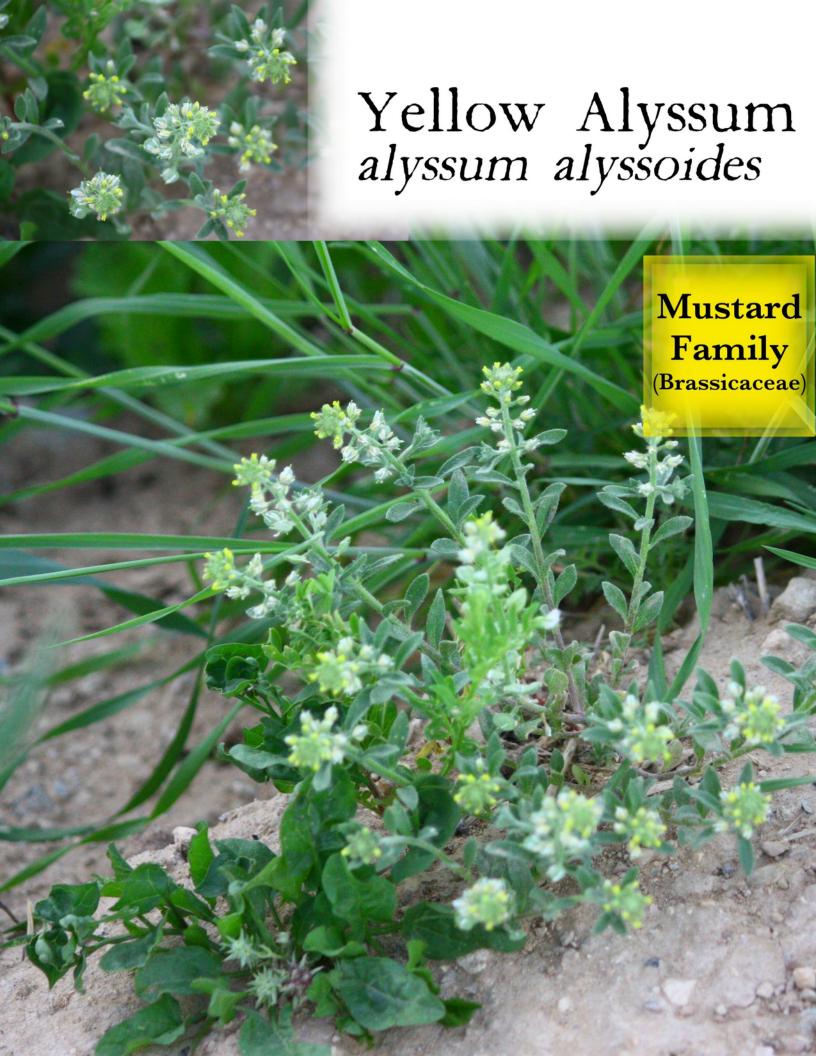
Some sources warn that eating mustard seeds in very large quantities can irritate the stomach lining.

#### Medicinal Uses

Brassicas in general have certain medicinal qualities. For example, the seeds of brassicas are sometimes used to "stimulated the production of digestive juices in the stomach." Basically, brassica seeds encourage and help digestion.

Mustard plaster, made by crushing seeds in water, is sometimes pressed between two moistened cloths, and the cloths are placed against the chest for relief of bronchial congestion. Supposedly after a time, the plaster chemically warms, but then the cloths shouldn't be left on too long, as they may cause blisters or rash. Too Consider what yellow mustard from a bottle would do if

it sat on the skin too long. Yeah, that's the brassica in it!





### Yellow alyssum, alyssum alyssoides

As a close relative of Desert Alyssum (alyssum desertorum), with it's shared history, the descriptions for yellow allysum are virtually identical, and their uses and basic properties coincide entirely. In fact, they're even a little tough to tell apart. So to learn about the uses and edibility of yellow alyssum, read the entry on alyssum desertorum, or desert alyssum.

## <u>Uses</u>

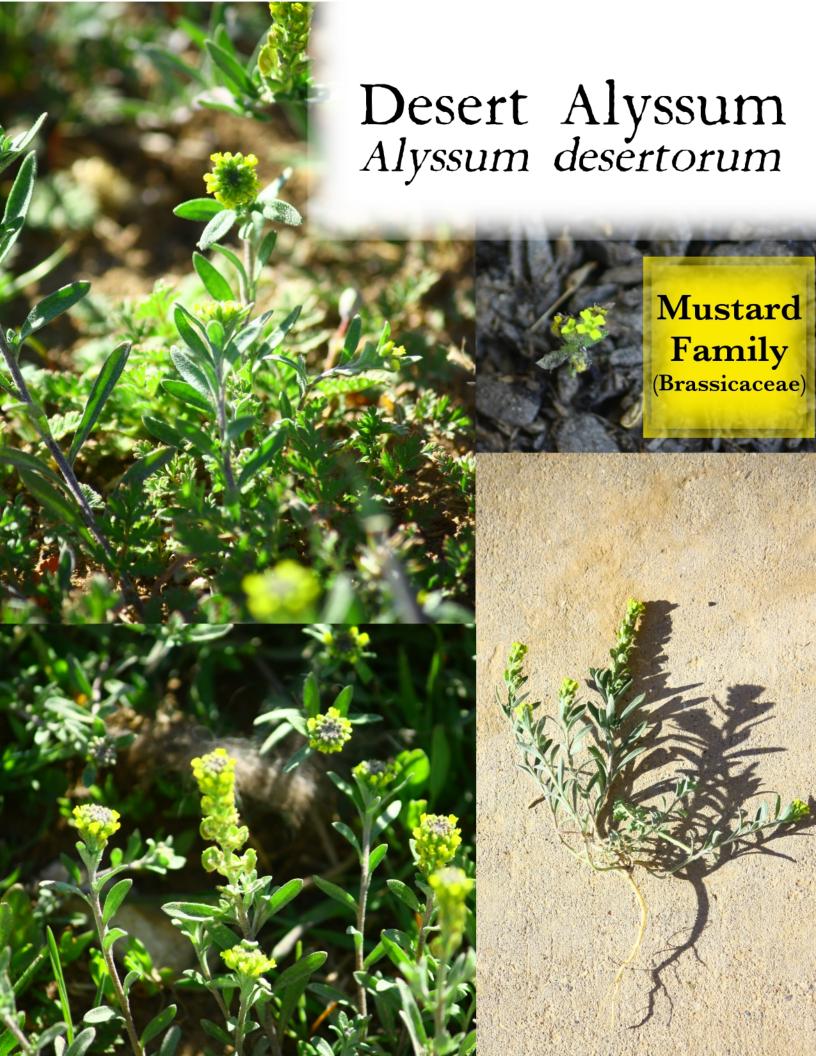
#### Primary use: Eating the raw leaves.

Edibility: All parts are edible raw or cooked. Yellow alyssum has a rather mild 7 avor for a brassica. Like all brassicas, the leaves, seeds, and 7 owers are edible.

Medicinal: The word "alyssum" comes from the Greek words "a-" (meaning without) and "lyssa" which means "madness." The tradition is that it was used to treat rabies, which causes madness. Hence the name madwort, meaning "mad-medicine." 107

Ecological: Yellow alyssum is eaten by western harvester ants, rabbits, pronghorn antelope, and sage-grouse.

Cautions: Though there is no major health risk around yellow alyssum, the dried pods can be notoriously annoying when they stick to shoes and socks.





### **Desert Alyssum**, Alyssum Desertorum

AKA Desert madwort, or dwarf alyssum, madwort, though madwort is a generic name for all alyssum. Desert Alyssum is a reseeding annual native to northern Africa, Eastern Europe, and western Asia, but introduced and prolific along the western United States and Canada. <sup>108</sup> It was introduced for medicinal purposes. <sup>109</sup>

### <u>Uses</u>

Primary use: Edible leaves, 70wers, and seeds, raw or cooked.

Food: All parts are edible raw or cooked. To Alyssum desertorum has a rather mild 7 avor for a brassica. Like all brassicas, the leaves and 7 owers are edible. Personally, I 6 nd the funnest part to eat is the fully dried seeds. To eat the seeds, remove the outer shell by gently rubbing the dry seed-packed stem between your hands and gently blowing away the chaC. Then pop the small tan-colored seeds in your mouth and suck on the seeds. Like the rest of the plant, the 7 avor is mild, but within 10-20 seconds, the seeds will soften and begin forming a gelatinous glob around each seed. In a short time, they will feel like tomato seeds in the mouth, and if you continue to suck on them, they will get a beebee size gelatinous glob around each seed which is smooth and comfortable in the mouth. Perhaps it's for this reason that in Asia, the seeds have been cultivated for their oil.

Medicinal: The word "alyssum" comes from the Greek words "a-" (meaning without) and "lyssa" which means "madness." The tradition is that it was used to treat rabies, which causes madness. Hence the name madwort, meaning "mad-medicine." <sup>III</sup>

According to JeCMosley, Extension Range Management Specialist at Montana State University, desert alyssum was used for curing hiccups, mental illness, and rabies. <sup>112</sup>

Because of the gelatinousness of the seeds, I suspect they could be used to sooth a sore throat.

Ecological: Desert alyssum is eaten by western harvester ants, rabbits, pronghorn

to8 USDA Natural Resources Conservation Service, http://plants.usda.gov/core/pro6le?symbol=ALDED

og http://www.cabi.org/isc/datasheet/112171 (rather in depth article on alyssum desertorum, which compiles all the research sources listed below

no http://www.americanherbalistsguild.com/sites/default/6les/herb\_walk\_with\_brigitte\_mars\_o.pdf

II See https://thenatureniche.com/2014/05/23/desert-madwort/

http://www.msuextension.org/BSSA/assets/docs/Alyssum.pdf

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m Go\ to\ Index}$ 

antelope, and sage-grouse. Some sources suggest that desert alyssum accelerates soil erosion and takes surface moisture out of the soil, depriving other plants of that moisture, thus preventing the germination of competing seedlings, <sup>113</sup> thus reducing biodiversity in the soil. <sup>114</sup> But from what I can see from reading the few sources suggesting these claims, it appears that the problem is cover cropping and overgrazing, because desert alyssum can live through both. These studies were made on sites that according to the study itself, were only conducted on cover cropped, overgrazed lands. When it is the only crop left, some mistakenly blame desert alyssum for the demise of other crops, though it sounds like it's the animals' eating of the crops (and tromping them in the process) that deplete the crops. <sup>115</sup> If I'm reading that correctly, excessive alyssum desertorum (like other drought tolerant wild plants) is an indication that soil has been badly abused by traditional agriculture, and the plant is 6lling in the gap, preserving the soil from complete sterilization.

Cautions: Though there is no major health risk around desert alyssum, the dried pods can be notoriously annoying when they stick to shoes and socks. Just realize that if the seeds are dry enough to do that, they're also ripe enough to collect the seeds for future use.

<sup>113</sup> http://www.cabi.org/isc/datasheet/112171

<sup>14</sup> https://eco.confex.com/eco/2009/webprogram/Paper16739.html

<sup>15</sup> http://www.cabi.org/isc/abstract/19920753644





### Shepherd's Purse, Capsella bursa-pastoris

AKA Pepperweed. Shepherd's purse is an annual, native to Eurasia, but naturalized all over the planet. It is named for the small, green, purse-shaped pods.

## <u>Uses</u>

Primary use: eating the peppery 70wers and pods raw.

Edibility: As a brassica, all parts of shepherd's purse are edible raw or cooked, and shepherd's purse is rich in iron, calcium, and vitamin C. <sup>16</sup> The best tasting parts are probably the fresh 70wers and green heart-shaped seeds (before they dry). The leafy greens can be used like kale or arugula. The whole plant is slightly peppery with a radish-like 7avor, and is tasty in salads, soups, sandwiches, and basically anywhere you might use broccoli, spinach, or radishes. While young in spring, the leaves are only mildly peppery, like cabbage, but spiciness increases with age. The dried seeds can be used as a mustard-like seasoning, though I haven't tried it yet. The root can be dried and used as a ginger substitute. <sup>17</sup> The leaves can also be dried and stored for later use up to a year.

Medicinal: It is good to keep in mind that thought shepherd's purse may be one of the more useful medicinal brassicas, it is a mild medicine, and is safely eaten as a common edible for people of all ages. As a mild medicinal, it is recommended for treatment in many types of ailments, including many heart-related issues, such as circulatory problems, mild heart failure, low blood pressure, internal and external bleeding, and nervous heart complaints. Basically, it's good for the heart. Similarly, when there is blood in the urine or in vomit, shepherd's purse can be used. It can also be applied directly on wounds, nosebleeds, and simple burns.

Shepherd's purse helps treat headache, diarrhea, and bladder infections.

Women can use shepherd's purse for premenstrual problems and menstrual cramps, and even reduces or slows menstrual bleeding. The science is that it's a vasodilator (vessel dilator), meaning it dilates blood vessels, which decreases blood pressure. Thus it decreases bleeding (while hastening coagulation by means of other properties within the plant)<sup>118</sup>, stimulates muscles, and increase uterine contractions.<sup>119</sup> It is sometimes used

nto http://www.pfaf.org/user/plant.aspx?LatinName=Capsella+bursa-pastoris

<sup>117</sup> http://www.ediblewildfood.com/shepherds-purse.aspx

<sup>118</sup> http://www.anniesremedy.com/herb\_detail112.php

http://www.webmd.com/vitamins-supplements/ingredientmono-51-shepherd's%20purse.aspx?

during childbirth.120

Shepherd's purse's ability to help the body retain 7uids makes it a good treatment for diarrhea.<sup>121</sup>

It is most often prepared for these purposes by making a tea of the plant, though again, the raw or cooked plant is edible just 6ne on it's own. When being used externally, you can make a poultice (mash it in water) of the leaves. Heating and making tea will likely take much of the peppery 7avor out, reducing any bitterness that might be present. Richard Whelen (medicinal herbalist) says, "Make a strong tea by adding 2 large cups of freshly boiled water (approximately 1 litre) to 3-4 heaped tsps of Shepherd's Purse dried herb. Cover and allow the tea to steep for a good 20 minutes. Strain and allow to cool before drinking. The equivalent dose to 1 ml of the tincture will be between 50-100mls of the tea depending on the strength and freshness of the dried herb. It is very strong tasting no question but once it is seen to work the unpleasantness should surely be worth it!" He also warns that, "It is not correct that 'more is better' with herbal medicine and in fact often it is the reverse that 'less is more!' You have to spend time with herbs to understand them; they are much more a living medicine than are drugs. The 6rst step is to feel them working, the second step is to get a sense of how often you need to use them and in what dose.

As soon as the treatment is obviously working you can stop it but if necessary you can take a dose every 1-2 hours—up to 6 doses in a day. If you don't feel anything happening by the 2nd or 3rd dose then try taking the herbs at the higher end of the suggested dose range. They may be hard to take but they will not cause toxicity.

Many women feel this treatment working almost straight away but because it is not exactly a pleasant process it is tempting to stop the treatment too soon. Listen to your body to know what to do and how long to keep it up for. Each extra time you take a dose you increase the strength of the eCect."<sup>22</sup> In treating for nosebleed, cotton (or probably a q-tip) is dipped in the tea or plant juices and inserted into the nostrils. For treating bruises, bruise fresh leaves and apply them directly to the bruise.

Ecological: Shepherd's purse is an excellent natural mosquito herbicide. When the seed is placed in water, it attracts mosquitoes, and the gummy seed substance binds itself to the mosquito's mouth. The seed releases a substance that is toxic to mosquito larvae, so a pound of shepherd's purse seed is said to be able to kill 10 million mosquito larvae.

Shepherd's purse can be an excellent restoration plant. It can be grown in marshy and salty ground to help absorb salt, increasing fertility in the soil. The plant is self-fertilizing

<sup>20</sup> http://www.pfaf.org/user/plant.aspx?LatinName=Capsella+bursa-pastoris

<sup>21</sup> http://www.rjwhelan.co.nz/herbs%20A-Z/shepherds\_purse.html

http://www.rjwhelan.co.nz/herbs%20A-Z/shepherds\_purse.html

and self-pollinating.

Cautions: Shepherd's purse is not recommended to be consumed by women who are pregnant or trying to get pregnant, since it can increase uterine contractions. It's also not recommended for those with kidney or liver disease. Also, while nursing mothers and babies are not harmed by the mother eating shepherd's purse, it has been suspected of tainting the milk.





#### Blue Mustard, Chorispora tenella

AKA musk mustard, cross7ower, and purple mustard. Blue mustard is an annual herb native to Eurasia, introduced to North and South America (unknown years).

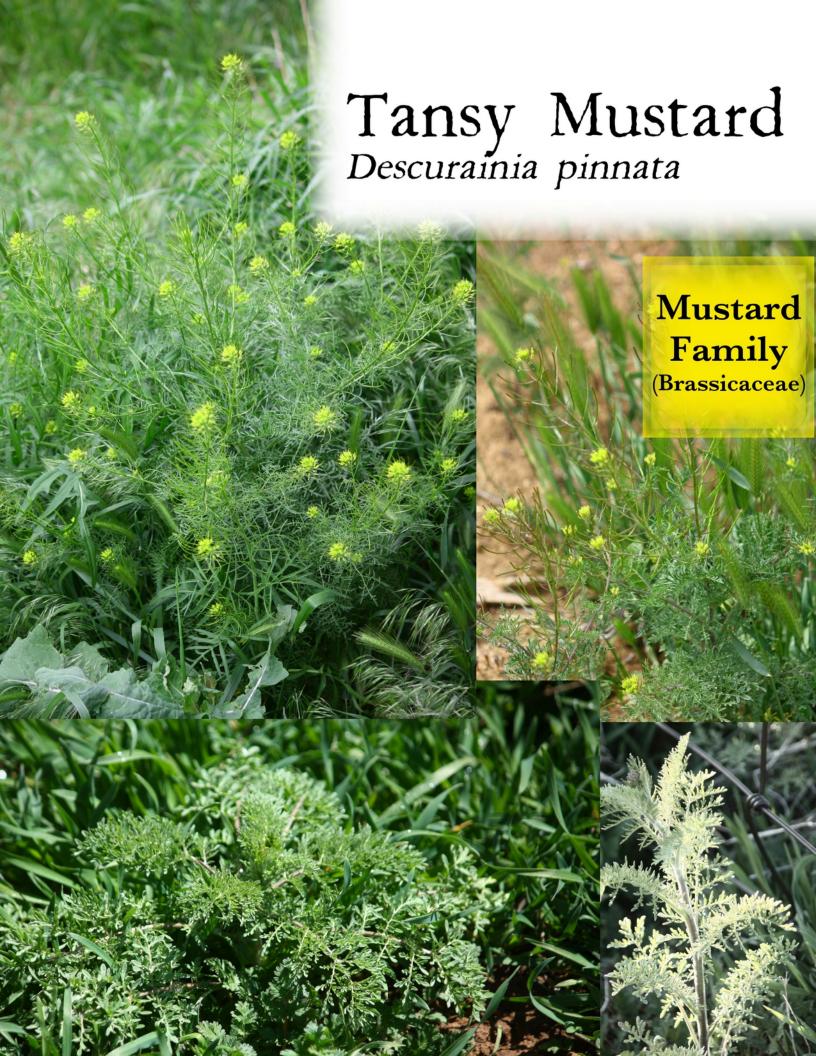
## <u>Uses</u>

#### Primary use: eating raw leaves and pods.

Edibility: As a brassica, all parts of blue mustard are edible raw or cooked. The best tasting parts are probably the fresh leaves and green pods. The leaves and green pods have a vaguely radish-like 7 avor, and are tasty mixed into salads, soups, sandwiches, and basically anywhere you might use broccoli, kale, radishes, or spinach. The dried seeds are crunchy raw, and have a musky mustard 7 avor, and might be able to be used to make yellow mustard, though I haven't tried it yet. They might make a good textural addition to salad, and would probably be good in soup. And while they aren't quite as tasty as desert alyssum seed, the seeds of blue mustard are bigger and a little easier to harvest.

Medicinal: None known.

Ecological: Blue mustard is one of the 6rst greens to show up in the spring, and as an early bloomer, invites bene6cial pollinators and insects. The purple 70wers over the meadow leave a nice, sweet, wild70wer smell in the air.





### Tansy Mustard, Descurainia pinnata

AKA western tansy mustard. Tansy mustard is a reseeding annual herb, native to North America.

### Uses

Primary use: Edible leaves and seeds (raw or cooked)

Edibility: A popular edible of the American Indians. Edible leaves, 70wers, pods, and seeds, all eaten raw or cooked. As with most greens, the younger they are, the better they are raw. Any age leaves are still good cooked, though. Green pods are tasty raw. Seeds seem to be the favorite edible of this plant. Unlike most mustards, tansy mustard has a dainty, parsley-like leaf which has a milder 7 avor than some of the stronger mustards.

Though tiny, the seeds, when wet, become a little mucilaginous (which can thicken liquids), so they're good in soups, or ground with cornmeal and baked into bread. Seeds can be used as a condiment (remember, it's a mustard). Seeds are also ground with sugar and mixed into beverages. Seeds can be collected by shaking the head of the plant into a can, basket, or bag.

Medicinal: Medicinal uses: the entire plant can be poulticed and used for toothache. The seeds mixed with water are used to settle an upset stomach. Liquid-soaked leaves can be used to wash sores.

Ecological: The 70wers of tansy mustard invite many bene6cial insects, and as a spring bloomer, brings in pollinators. Compared to some of the other mustards, tansy mustard generally tends to be less intrusive, and more sparse across a property, allowing for greater biodiversity.

Cautions: Because of naturally occurring nitrates (such as also occur in green beans, spinach, etc) and thiocyanates (which are also found in broccoli, cabbage, etc), Tansy can be toxic to animals if eaten in large quantities, and perhaps would be to humans in huge quantities as well, though that's not much of a worry, since people don't graze as their primary source of food, and are likely to eat a wider variety of other

foods.  $^{123}$  In small amounts, however, this plant is rather nutritious, both for animals and humans.  $^{124}$ 

<sup>123</sup> Green Dean at eattheweeds.com/hares a lot about this native edible on his website: http://www.eattheweeds.com/descurainia-pinnata-abandoned-seed-2/

Everitt, J.H.; Lonard, R.L.; Little, C.R. (2007). Weeds in South Texas and Northern Mexico. Lubbock: Texas Tech University Press. ISBN 0-89672-614-2





### Whitetop Cress, Lepidium draba

AKA hoary cress or whitetop. Whiteiscopperennial, native to Eurasia.

## Uses

#### Primary use: Leaves and wers eaten raw or cooked.

EdibilityWhitetoreress is entirely edible. Therefore buds taste like spicy broccolidatan be eaten or prepared in any way that you might prepare brockelleaves taste like ustard greens, and can also be eaten the same way, raw or cookeden Wooked, instead of darkening like broccoli, whitetop dismo become a brighter, knost reongreen making it a great substitute for broccoli ithings like broccoli ehse soup or stir-fry.

You can cook that alks as you right prepare asparagus, and the taste, though unique, is comparable.

As with almost all plants, the younger and fresher the plants are, the better they tend to taste.

The Gwers add a tasty, almost mustard-like spice to sandwiched salads, and can even be dried for later use.

The dry seeds of whitetop kee a pepper substitute. Greenseedpods can be ground to kee wild mustard. Raw seedpods also add a nice mustardy Cavor to salad sandwiches?

Since many states list whitetopan invasive species, it can usually be extenfreely without concern for overharvesting. Just keep in mind, like broccoli, whitetoppe come ll amounts of hydrogen cynide (a chemical that is in higher quantities in things like sweet potatoes and apple seeds), which can be easily cooked out. If you are planning on eating a largent of whitetop, it's probably best to cook it. Irakmamounts, raw@wers, leaves, and seeds are harmless.

Medicinal Whitetopseeds have been used as a cure for Catulence, sawell as a cure for sh-based food poisoniff Eating whitetop ca help prevenscurvy. 27

<sup>125</sup> Briana Wiles, Mountain States Foraging: 115 Wild and Flavorful Edibles from Alpine Sorrel to Wild Hdripsnd, Oregon: Timber Press, 2016), 281

<sup>126</sup> http://practicalplants.org/wiki/Cardaria\_draba

<sup>127</sup> http://www.pfaf.org/user/Plant.aspx?LatinName=Cardaria+draba

Ecological Whitetophikes to grown thick patches, and though it can get up to 32 inches tall, generally stays about a foot tall, making it a fabulous ground corber trarly springtime when moisture is still high, providing an extended moisture period for the soil. This also makes it a fabulous plant for erosion prevention.

Caution Secause it is an invasive species, it is often found abundantly in public areas.

Be careful not to eat plants that have been sprayed with either herbicides oradifertilizers, as well as those polluted by roadside oils and exhaust.





### Tumble Mustard

Tall tumble mustard—Sisymbrium altissimum
AKA tall mustard, tumbleweed mustard, tall sisymbrium, tall hedge mustard, and Jim
Hill mustard. Tumble mustard is an annual or biennial tumbleweed, native to the
Mediterranean and northern Africa.

# <u>Uses</u>

Primary use: Edible leaves, 70wers, and seeds, raw or cooked.

Edibility: Tumble mustard is a wild mustard, and as such, has edible everything, raw or cooked. Fresh leaves taste exactly like it's cousin, arugula, and can be used and eaten in the same way. The buds, 70wers, and pods (which look more like green sticks than pods) are good in salad, soup, sandwiches, or anywhere where a light peppery 7avor might be appropriate. The seeds can be eaten plain or cooked. In fact, seeds can be ground and prepared like oatmeal, though I imagine it would be a spicy oatmeal.

Seeds continue to be accessible long after the dry tumbleweed has broken free and tumbled away. They are obtained by snapping the end twig tips, which sends the tiny seeds 7ying everywhere. The dry tumbleweed can be shaken or banged around in a bag to collect the seeds.

A very closely related (and virtually identical in look and properties) species called Indian hedge mustard (Sisymbrium oUcinale) was quite popular as a food item among Native Americans. The seeds were collected, traded, and/or sold on markets.

Medicinal: The brother plant, Indian hedge mustard (mentioned above), is said to restore a lost voice, such as after a cold or sore throat. In fact, some call it the "singer plant," because it helps treat loss of voice. In fact, it treats all sorts of throat issues, as well as stomachache. 128 It was prepared by soaking and then drinking the seeds.

Ecological: Tumble mustard is a food plant for the caterpillars of several butter7y and moth species.

Practical/Artistic: When matured and 6nally dry, tumble mustard makes a heroic tumbleweed that makes fantastic craft material. The segments of balsa-like wood

can be easily cut and used in crafts appropriate to the size of the piece cut—and every plant hast various sizes of segments of diCerent lengths of light-weight stick.

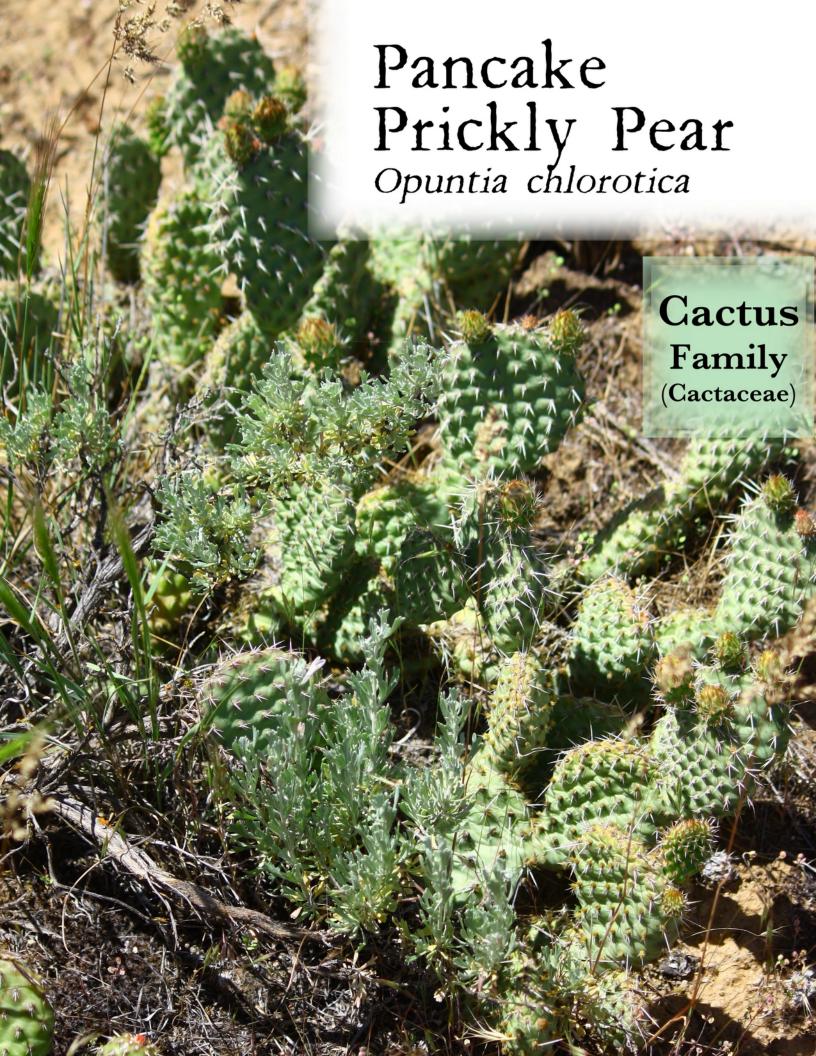
Cautions: As with other brassicas (mustards), this plant is best eaten mixed with other plants, and not as a primary staple. If eating in great quantity, tumble mustard should probably be cooked.

# Cactaceae Family—Cactus Family

Most of us think of cactus as the poky plants to ignore and leave alone—and I'm sure cactus would love us to feel that way, except that such a reputation has also made us come to consider them weeds. That's too bad, because most members of the family are both edible and delicious. In fact, if you've heard of the health bene6ts of aloe vera, you can now be assured that most of those wonderful properties are characteristic of most cactus plants.

Get your gloves on—you're really thick ones—and give your local cactus a try. Just make SURE to identify the species 6rst so you can be sure it's one of the hundreds of edible ones. You don't want to get poked and poisoned.

One of the most common cactus is the prickly pear, which comes in many varieties, and can be bought in the produce section of the supermarket. These aren't even the domestic cousins of the ones in your yard—they're the very species. Sure, the store-bought ones were probably babied and overwatered to get them so big, but I think you'll 6nd the ones from your yard much sweeter anyway.





## Prickly Pear

Pancake Prickly Pear, Opuntia chlorotica AKA tuna fruit, 7 apjack prickly pear, or dollarjoint prickly pear. The pancake prickly pear is a perennial cactus, native to southwestern United States.

## Uses

Primary use: Eating the raw 7esh of the pad and fruit from the inside.

Edibility: As with all prickly pears, the pancake prickly pear is edible raw or cooked, and is quite delicious. Prickly pears can be found in the produce section of the supermarket. There are two main parts to the prickly pear: the pad and the fruit. Either can be harvested by running a knife through it width-wise (be careful, and use gloves if you have them—it's got some vicious spines!) and opening it like a hot-dog bun, and using the knife or a spoon to scoop out the 7esh. The pad has an almost watermelon-like texture, and a very mild, slightly tart, cucumber-like 7avor. The fruit, which is the reddish pod atop the pad and under the 7ower, is much sweeter. Some compare the 7avor to watermelon and bubblegum mixed with kiwi.

The juice of the fruit is sometimes used in jellies, juices, and candies, and the fruit is used in deserts, pies, shakes, and spreads.

Prickly pear is an excellent source of vitamin C, dietary 6ber, magnesium, and a moderate source of potassium and calcium.<sup>129</sup>

Medicinal: Eating prickly pear may help decrease or regulate blood glucose, making it good for those with type 2 diabetes. It' helps the pancreas in the creation of insulin. It also may reduce some levels of fats in the blood. 130 It is also said to have antiviral properties, protecting the body against disease. 131 To make a superfood tonic, you can mix prickly pear and aloe vera.

Ecological: Prickly pears, other than their poking risk, are fabulous in any climate they'll survive. They're marvelous at retaining water, beautiful when they 70wer, and one of the tastiest wild edibles in the landscape. They can propagate by getting a link knocked oCthem, which slowly roots in the soil while it's own 7esh keeps it alive until

<sup>29</sup> http://nutritiondata.self.com/facts/fruits-and-fruit-juices/2039/2

Natural Standard Herb & Supplement Guide: An Evidence-Based Reference, (Maryland Heights, Missouri: Mosby, 1 edition, 2010), 527

<sup>31</sup> https://www.youtube.com/watch?v=5wuLfCuczjQ#t=91.630938

the roots can begin drawing in new water.

Cautions: Obviously the biggest risk with the prickly pear is the spines. The big ones can be tough enough to pass through the sole of a shoe, but don't underestimate those little tiny hair spines—they'll poke into your skin and then wait there unnoticed until an inconvenient moment to start hurting, even breaking oCjust above the surface of the skin, making them diUcult to 6nd and remove. Good tweezers will usually remove them.

# Carrot Family—Apiareae

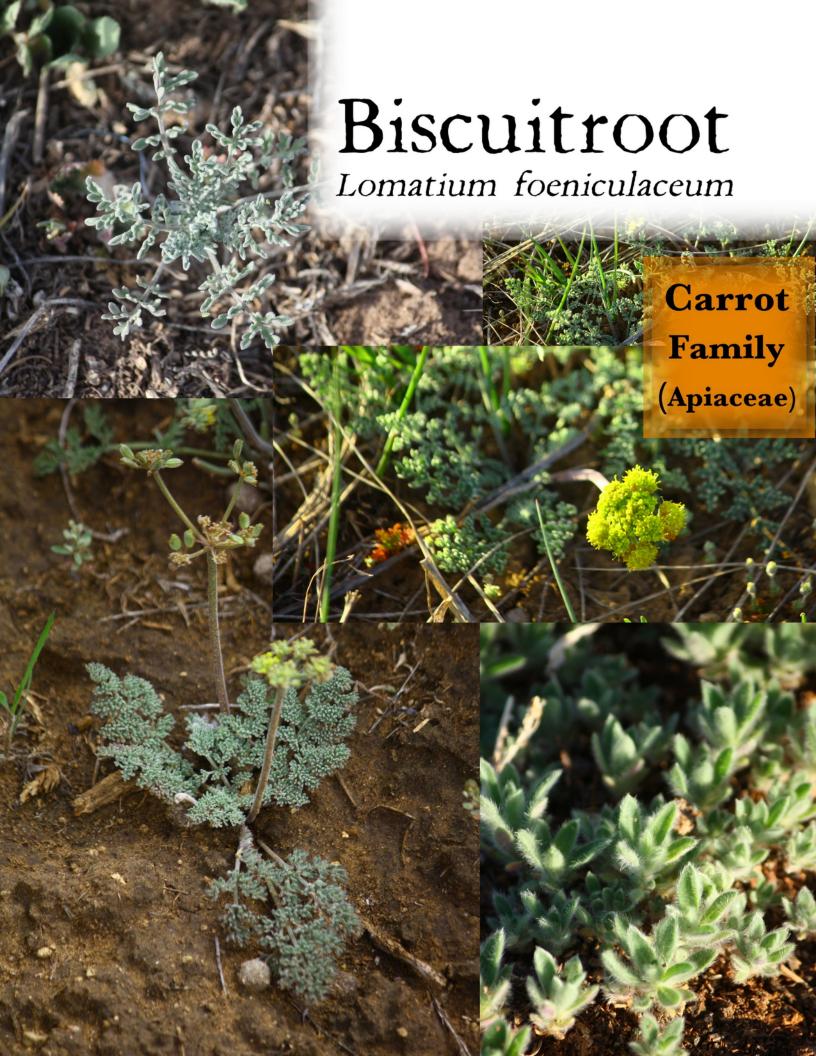
Though one of the best families for 6nding scrumptious wild herbs and spices, the carrot family (sometimes called the parsley family) is also the one usually cited with the biggest CAUTION sign. The reason for this is a single member: poison hemlock, which for the inexperienced forger looks very much like carrot or parsley. And the caution is well founded. Poison hemlock can be deadly.

But if you can get to know the look of poison hemlock, avoid anything that could possibly be poison hemlock, and recognize that young poison hemlock looks a little diCerent than mature poison hemlock, you shouldn't have too much trouble keeping it out of your mouth. Yes, it is a member of the carrot family, and no, it's not actually related to the hemlock tree at all.

But beyond that bad apple, the carrot family is full of lovely plants, many of which are edible, and make great 7 avorings to other foods.

Some better known members of this family include: carrot, parsley, dill, anise, fennel (anise and fennel both taste like licorice), celery, cumin, coriander (AKA cilantro), parsnip, and caraway.

If you like any of those 7 avors, just know that most of their wild cousins taste very much like one of them.





## **Biscuitroot**, Lomatium foeniculaceum

AKA prairie parsley, Desert biscuitroot

Desert biscuitroot is a perennial, native to western North America.

# <u>Uses</u>

#### Primary use: Edible leaves and 70wers.

Edibility: Biscuitroot has edible leaves, 70wers, seeds, and roots that can be eaten raw or cooked. Native Americans considered biscuitroot a staple food. The root can be dried and ground into a starchy, course 70ur (hence the name, biscuitroot). Roots have a slightly sweet, rice-like texture. Fruits (unripe seeds) and 70wers taste like celery, and the leaves have a subtly parsley-like 7avor, giving it a second common name of wild parsley As far as wild edibles go, biscuitroot is something of a treat, in my experience—delicious.

All species of lomatium are edible with the same qualities as the desert biscuitroot. 132

Medicinal: Though I haven't found too many medicinal uses of the speci6c Lomatium foeniculaceum species, many such qualities are found for the sister species, Lomatium dissectum. Some native Americans called (dissectum) biscuitroot Big Medicine, because it works well against respiratory infections. Roots were boiled for tea and placed on the body for colds and 7u, or steamed, and the sick person breathed the steam of the tea. The dry root can also be pounded and mixed with grease/oil and massaged onto aCected areas of the body. Hot tea of the plant was drunk for those who were weak in order to help them gain weight.

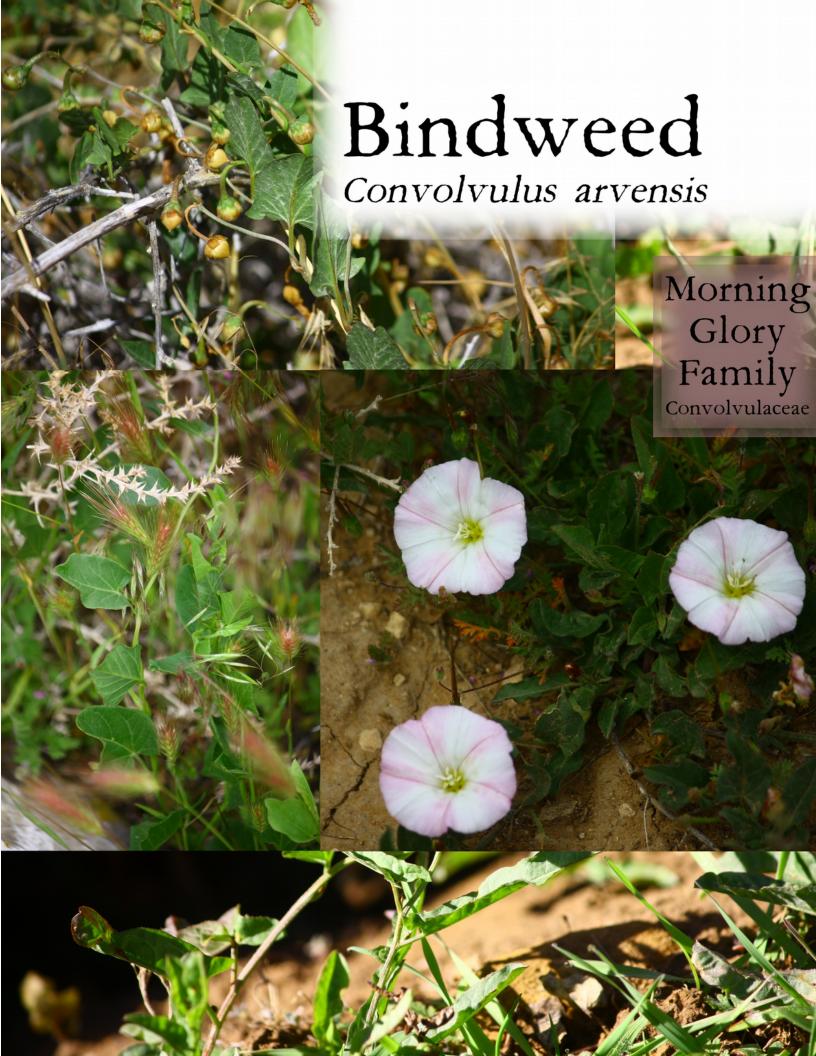
Even today's herbalists list it as antimicrobial, expectorant, and antiviral, though again, they are usually referring to the species of biscuitroot L. dissectum, rather than L. foeniculaceum. L. dissectum should be absolutely positively identified before use, since it gets larger than the lomatium foeniculaceum and can therefore be confused with poison hemlock.

The species lomatium triternatum was used by native americans to make a root tea that was drunk to treat sore throats and coughs. Some would chew the roots to make a poultice that would then be put on an injury or diseased body part.

Cautions: Be careful not to confuse this plant with poison hemlock (mostly white 70wers). Poison hemlock is much larger, but being in the same family, it does have a similar look. Most of the time, I avoid eating wild plants in the apiaceae family for this reason, but biscuitroot (lomatium foeniculaceum, with it's small size and yellow 70wers), with a little comparing, is easily diCerentiated from poison hemlock.

# Convolvulaceae Family— Bindweed

What can I say for this family? It's the morning glory family. Not that morning glory and bindweed don't have their uses—they do, but bindweed will be bindweed. Just don't eat the stuC—unless you know what you're doing.





## Bindweed, Convolvulus Arvensis

#### Field bindweed

Field bindweed is a perennial, native to Europe and Asia, "most likely introduced into North America as a contaminant in crop seed as early as 1739." 133

# <u>Uses</u>

#### Primary use: ground cover for land restoration.

Edibility: None. Mildly toxic. Some suggest that the young new leaves are edible, but I can 6nd no sources to verify this outside of medicinal uses.

Medicinal: Mildly toxic to both grazing animals and people. Bindweed root is a diuretic/purgative that can be eCective even in children. Several sources suggest that bindweed can be used to increase the 70w of bile "and its discharge from the body." Basically, it (especially the root) encourages vomiting and diarrhea.

Some suggest that bindweed extract could help arrest the growth of cancerous tumors. Native Americans used bindweed as an antidote for spider bites (by washing the wound in bindweed tea), and the leaves were used for enhanced secretion of bile. Some also suggest that bindweed has uses for diabetic management, though this ought to be researched to ensure it is used appropriately. Flowers are said to have antibacterial and antifungal properties, and therefore treats symptoms of diseases such as E. coli and salmonella. The truly brave could also use it for it's supposed uses as an anti-stress, antipsychotic remedy. In some parts of Asia, the new shoots are sometimes eaten. <sup>135</sup>

In Pakistan, the roots have sometimes been used as a rinse for hair to eliminate dandruC, and native Americans took it internally to reduce excessive menstrual 70w. Bindweed is sometimes used as a laxative, and the roots and/or 70wers (drunk as tea) are used to promote sweating in order to break fevers. Some studies also suggest that bindweed may be used to inhibit the growth of tumors in mice. <sup>136</sup> Most sources listing internal medicinal uses of bindweed are not given with clear instruction, such as a recipe or method. The plant is rich in tropine, pseudotropine, aspartic acid, cysteine, alanine and

https://en.wikipedia.org/wiki/Convolvulus\_arvensis

http://montana.plant-life.org/species/convolv\_arvens.htm

<sup>35</sup> http://www.home-remedies-for-you.com/herbs/bindweed.html

http://herbs-treatandtaste.blogspot.com/2011/10/6eld-bindweed-one-of-worst-weeds-but.html

Arginine.137

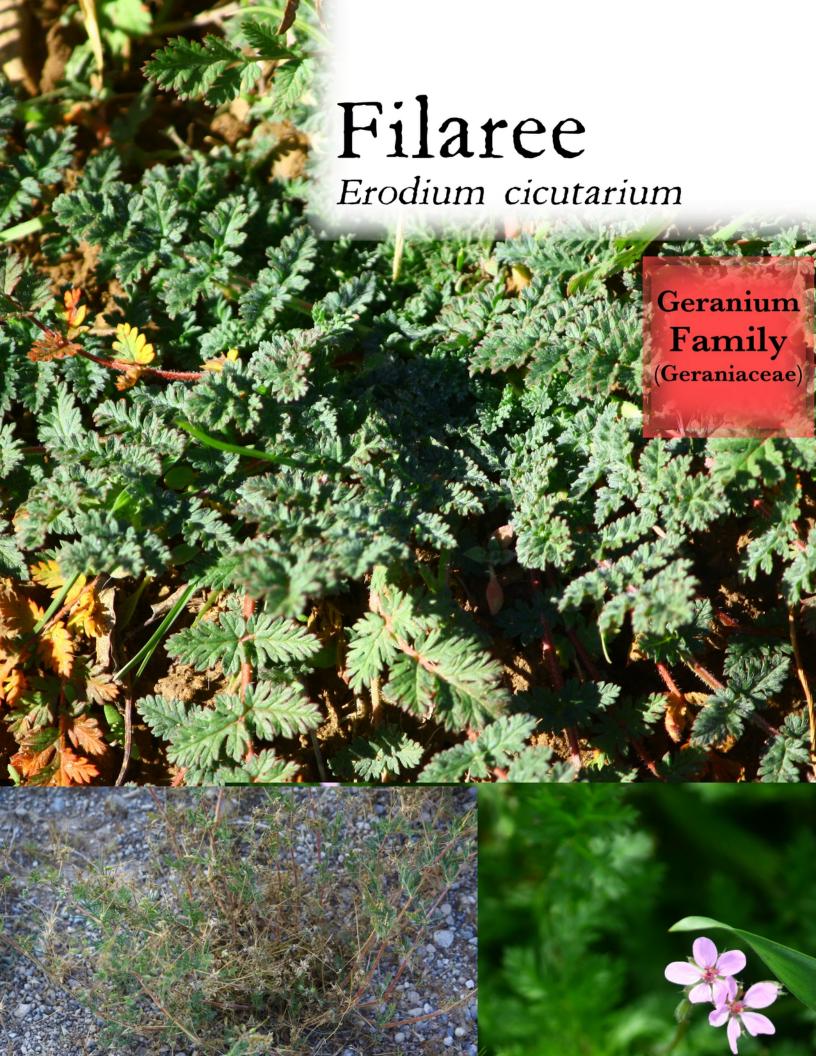
Ecological: It is also a good pollinator. Bindweed provides ground cover, and is a natural soil-reclaimer and soil detoxi6er, cleansing the ground of heavy metals (including those caused by overly-agricultured or herbicided land). Research shows that it reduces chromium, copper, and cadmium in the soil. Bindweed may be able to be used to drown out various undesired plant species(naturally decreases plant diversity), though it doesn't tend to completely drown out most species, desirable or not. As a good chop-and-drop crop, bindweed can provide nitrogen to the soil. Bindweed also helps make overly-agricultured land cultivatable again.

Artistic/Practical: Bindweed can be used for artistic crafts. Stems can be braided or weaved, being long and fairly strong. Dries fairly true to shape. Sometimes used for baskets and ropes. The plant can also be used to make green dye.

Cautions: Bindweed shouldn't be eaten like lettuce or spinach. If it truly has bene6cial medicinal uses that involve eating the plant, those uses ought to be studied well before consumption. Mostly, it appears that eating bindweed is likely to cause diarrhea, and is otherwise fairly harmless.

# Geraniaceae—Geranium Family

The geranium family is certainly a family of lovelies. And we like lovelies, don't we? But though unknown to most, this family does have some delicious edibles, too.





## Filaree, Erodium cicutarium

Sometimes called storks bill (close relative to cranes bill, which has similar useful properties), so named because of the shape of the seed and the occasional red stem.

Filaree is a reseeding annual or biennial (perennial in warmer climates), introduced from the Mediterranean in the 1700s.

# <u>Uses</u>

### Primary use: eating the raw greens as food.

Edibility: The entire plant is edible. Filaree leaves, 70wers, stem, and roots can be eaten raw or cooked. The greens taste a little like very mild carrot greens or parsley. The stem tastes a little of potato mixed with celery. The root is sometimes chewed like chewing gum, since it can be chewed for awhile. The root has a mild rooty 7 avor (think very subtle turnip, carrot, or potato 7 avor). The seeds are a great source of vitamin K. Tasp

Medicinal: The Zuni tribes chewed 6 laree into a poultice to apply to sores and rashes. The root was also infused (crushed and mixed into water or oil) and eaten to treat stomachache. The whole plant is astringent, meaning it can be used to contract—either skin, breaks in blood vessels, etc—basically it can protect wounds and skin. It can be used to stop bleeding, either internally or externally. The leaf tea is also drunk to treat typhoid.<sup>140</sup>

The roots and leaves are sometimes eaten by nursing mothers to increase milk-70w. <sup>141</sup> Filaree tea, drunk in good quantities, helps reduce joint in ammation, and the warm, wet/hot leaves from the tea can be placed on the sore joints to reduce swelling if applied for several days.

Psychological/Emotional: Filaree 70wers have been infused (meaning soaked in water or oil) and consumed to reduce anxiety or feelings of obsessive compulsion.

http://www.pfaf.org/user/Plant.aspx?LatinName=Erodium+cicutarium

http://www.eattheweeds.com/erodium-circutarium-geranium-carolinianum-two-bills-you-want-to-get-2/

<sup>140</sup> James A. Duke, <u>Handbook of Edible Weeds</u>erbal Reference Librar(Cleveland, Ohio, CRC Press; 1st edition, 2000), 96

Ecological: Filaree seeds are collected by harvester ants. The tiny 70wer is diCerentiated from blue mustard because it has 6ve petals instead of four. Filaree is a food plant for the brown argus butter7y (Aricia agestis), and the 70wers provide much honey pollen. As an early annual, 6laree can form a soft mat of green across the landscape—especially when there is suUcient water. Before seedhead spikes form, it's a good ground cover, and adds organic material to the soil. Filaree is also a food crop for many grazing animals, including some omnivorous desert reptiles. Filaree never gets very tall and is a great companion plant to taller herbs, since it occupies a diCerent layer in the landscape, shading the soil from excessive evaporation.

The tail on the seed is humidity sensitive, and can be used to detect humidity in the climate. As the climate changes, the seed coils or uncoils.<sup>142</sup>

Artistic/Practical: Filaree is used to make green dye, which doesn't need a mordant or binder to make the dye.

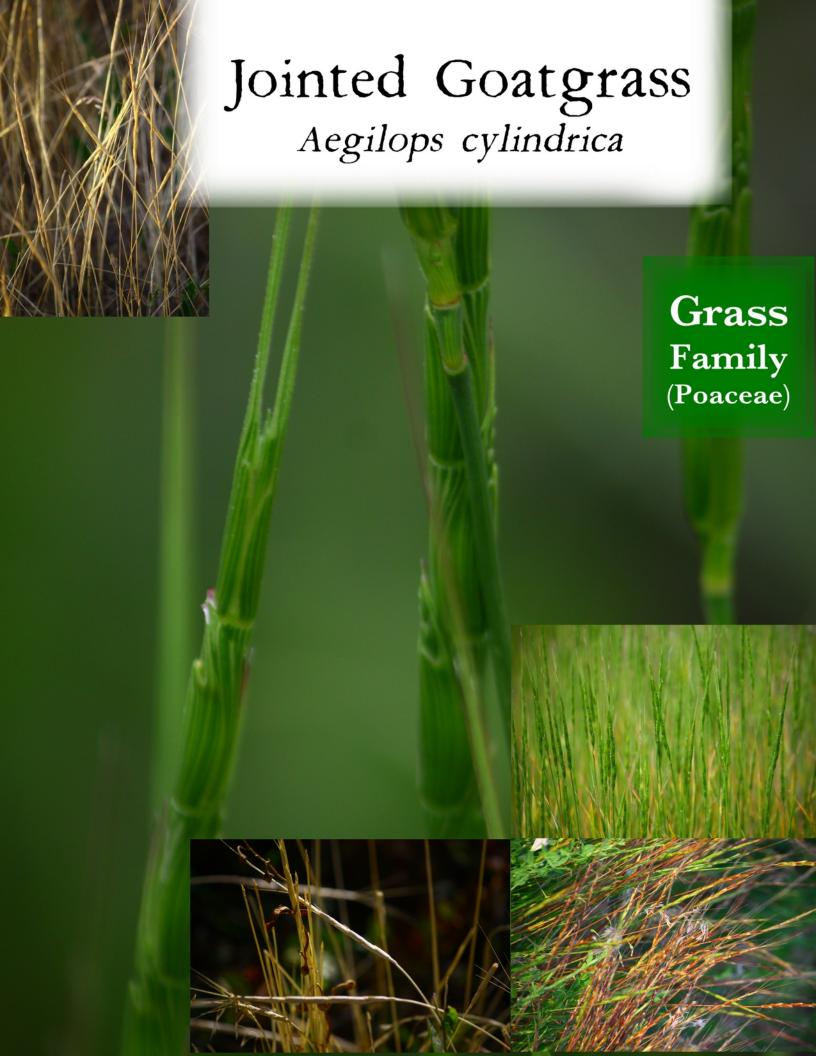
Cautions: Filaree leaves look a lot like those of poison hemlock, which is poisonous. The best way to diCerentiate claree is to 6nd the small 5-leaf 70wers or pointed thorn-like spikes. That said, 6laree is a rather small plant (grows fairly 7at and rarely gets over 12 inches tall), whereas poison hemlock tends to be much larger (4-10 feet tall). The seedling of poison hemlock, however, looks a little like 6laree, as well as parsley or carrot. Again, the 5-pedal purple/pink 70wers indicate it's not poison hemlock (which has white 70wers). Also, 6 laree leaves are slightly hairy, while poison hemlock is not.

# Grass Family—Poaceae (Grains and Cereals)

The grass family is an interesting one. It almost seems to be separate from other plant forms, and while there are some botanical reasons for this, I won't get into that. Just know that grasses are both fascinating and diverse. And, though known to very few, most wild grasses are edible—at least the grains are. It's like an entire family of diCerent variations on wheat, such as rice, barley, oats, rye, and yes, corn. But wait! There is a term for such similar foods: grains. Or... cereals, though not to be confused with breakfast cereals—which is mostly made of grass grains. Ah, I think you get what I'm saying. Grasses are the bready staples of the human diet.

The funny thing about grasses is that as a society, we think of grass as lawn. Which is hilarious if you ask me, because if you want the yummy grains that you can make into bread (or tortillas, or pasta, or popcorn, or cereal... including breakfast cereal), you don't want to mow that. I guess you might say that trimmed grass is called lawn, and grass allowed to grow is dinner—or... breakfast.

Oh, and lest you assume that grass is all health nut stuC.. sugar cane is a grass.



## Jointed Goatgrass, Aegilops cylindrica

Jointed goatgrass in a reseeding annual, native to Russia and Europe, introduced into the United States in the late 1800s.

# <u>Uses</u>

## Primary use: Edible wheat-like grains.

Edibility: Though I can 6nd no certain con6 rmation by foraging experts (either con6 rming or denying the edibility of jointed goatgrass grain), as a close relative to wheat (which can even cross with wheat, especially winter wheat), it is my opinion that the grain can be eaten like wheat. I have eaten it in two forms of bread so far—as a scone, and in banana bread, where in both cases, jointed goatgrass grain 7 our (ground with the chaCand all) was the only 7 our used. The taste was pleasant, rather comparable to wheat, though certainly more 6 brous than ordinary 7 our.

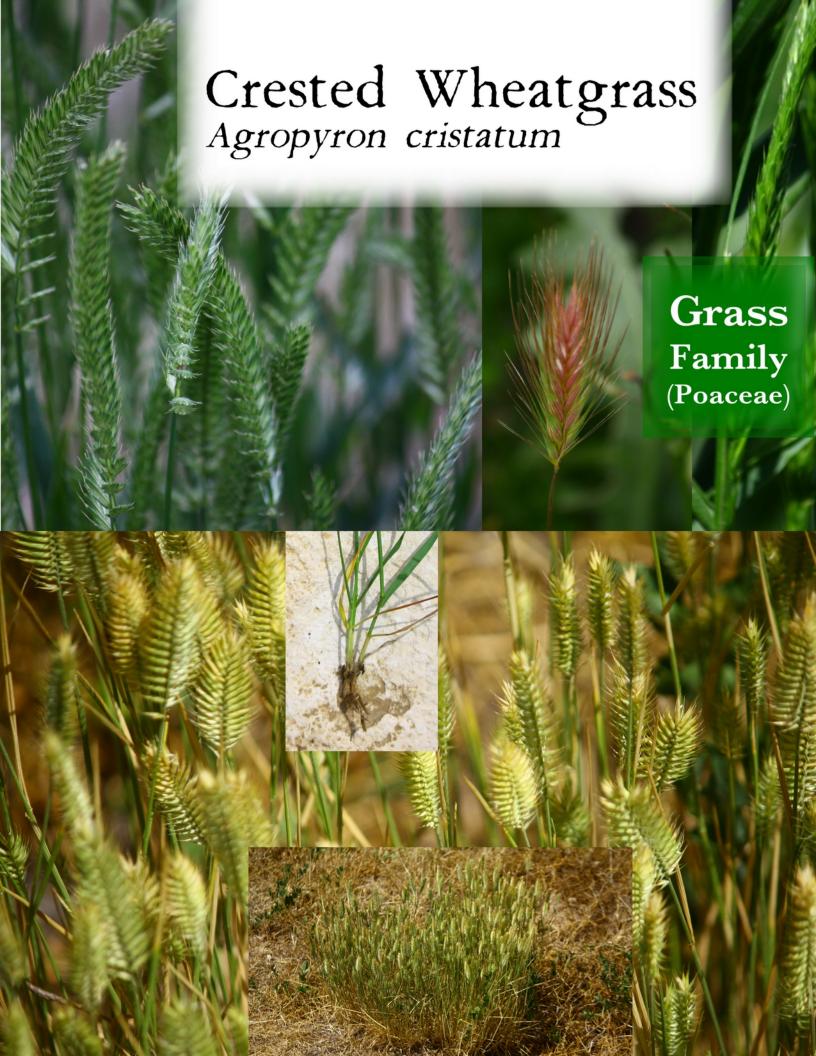
Isolating the grain from the thick chaCcan be tricky, but gratefully the chaCcan be ground with the grain, adding 6ber to the 7our. As for how nutritious it is, I have no idea —I can only assume it's similar to wheat.

Medicinal: None known.

Ecological: When ordinary wheat mixes with jointed goatgrass, the hybrid wheat can be more drought and cold tolerant than ordinary wheat.

Cautions: Like I said, I haven't conformed via Internet or books whether jointed goatgrass actually is edible. Likewise, I can 6nd nothing suggesting any level of toxicity. Try it at your own risk. Just know that most wild grass grains are edible and nutritious—though there are a few exceptions. There is a ton of information out there about jointed goatgrass being an invasive species, and "contaminating" wheat 6elds, since farmers can't use herbicides on it lest it also kill their closely related wheat.

Oh, and be careful if you try to grind jointed goatgrass in an electric grain grinder, since the chaCplugs up the entryway for the grain, so that the grinder runs dry without grinding anything. To remedy this, blend grains in a blender or food processor 6rst, or



## Crested Wheatgrass, Agropyron cristatum

AKA Crested wheat grass and Fairway crested wheat grass. Crested wheatgrass is a perennial, native to Europe, and was imported from Russia to the United States in the early 1900s.

# <u>Uses</u>

## Primary use: Food for livestock.

Edibility: Though I have found nothing to conform it, as a wheatgrass, the grain of crested wheatgrass is likely edible, though it is quite small. And in harvesting you mostly get chaC, making it not really worth the eCort.

Medicinal: None known.

Ecological: Crested wheatgrass is a livestock forage food, and was brought to the United states for animal feed. It is very drought tolerant, though it tends to become too dry for feed in mid-summer. It can withstand heavy grazing from livestock, horses, deer, elk, birds, rodents, and rabbits, and as a perennial, it returns in early spring year after year. Small birds sometimes utilize it for nesting. It is also a good land restoration species with a good, drought tolerant root system. It can also be used for a waterless lawn. If given suUcient care, they can also act as weed barriers.

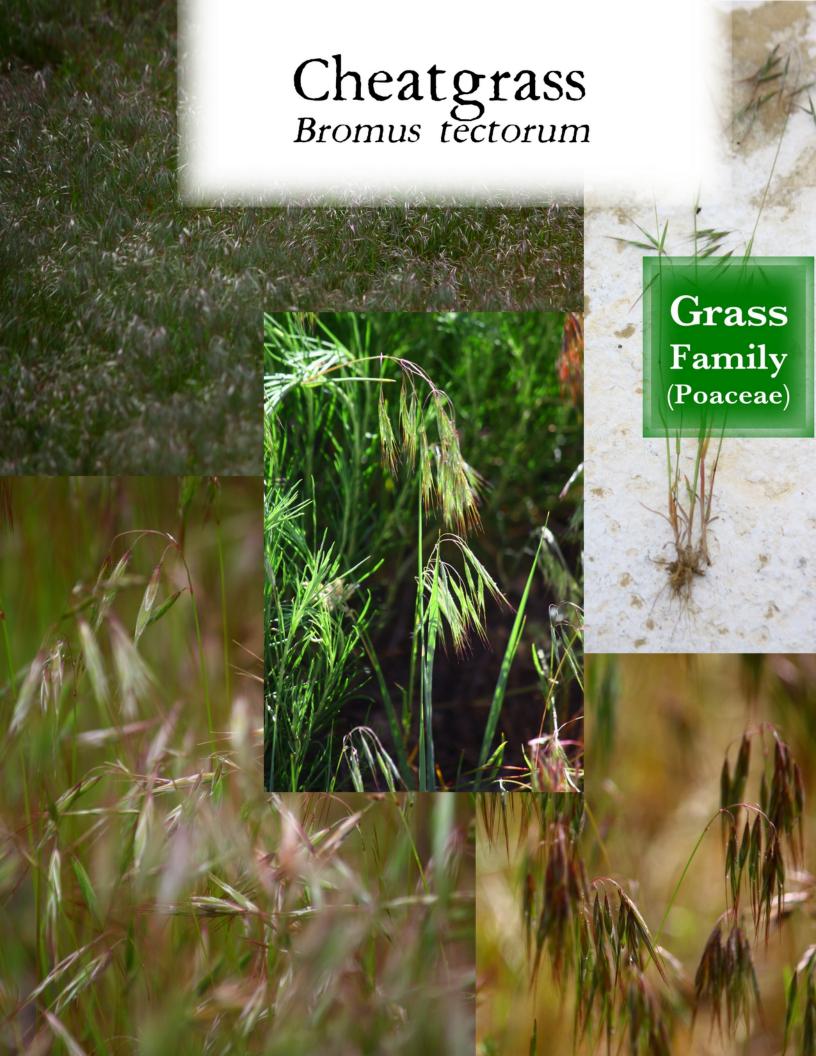
Cautions: Crested wheatgrass is one of the hay fever perpetrators if you have pollen allergies or hay fever susceptibility.

Lafe Gerald Conner, Growing Wild: Crested Wheatgrass and the Landscape of Belon(given, Utah: Utah State University, 2008), http://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1021&context=etd

http://www.gardenguides.com/taxonomy/crested-wheatgrass-agropyron-cristatum/

http://www.gardenguides.com/127773-uses-wheatgrass.html

http://www.gardenguides.com/taxonomy/crested-wheatgrass-agropyron-cristatum/



#### **Cheatgrass**, Bromus tectorum

AKA drooping brome, downy brome, June grass, bronco grass, early chess, military grass, thatch bromegrass, and Mormon oats. Cheatgrass is a reseeding annual, native to Eurasia and northern Africa.

## <u>Uses</u>

#### Primary use: Edible grain as famine food.

Edibility: Cheatgrass is considered a famine food, but the grain of cheatgrass can be cooked and eaten. The grains can also be ground into gruel, which may be where it earned the nickname Mormon oats. Roasted seeds have also been used to make a substitute coCee.<sup>147</sup>

Medicinal: A poultice or paste can be made from seed heads that can be rubbed on the chest to relieve chest pains. 148

Ecological: In the spring, cheatgrass becomes a lovely purplish ground cover that bends easily in the breeze. But when summer comes, it dries and attaches its seed to everything. It is intensely prolific, and it's presence may be a symptom of overgrazing. Seedlings tend to sprout in the fall, and then survive over winter, and continue growing in the spring, when they go to seed.

Practical/Artistic: The leaves of cheatgrass have been collected and used for bedding. It is also extremely 7 ammable when dry, and makes excellent tinder/kindling for making 6 re.

Cautions: The dried 70wer head (awn) of cheatgrass in summer becomes feisty when it attaches to socks, shoes, and clothing,. Animals have even been known to be injured by these prickly heads (attaching stickers to noses, ears, and eyes). This threat continues until the awns have all fallen to the ground or been trampled by rain and walking traUc, by mid fall, the threat has reduced considerably. Do not eat the grains if there is black, wormlike fungus on the plant. These may be ergot, which can cause

ergotism in people.

#### Field brome, Bromus arvensis

AKA Shrader's brome. Field brome is a reseeding annual, native to Eurasia.

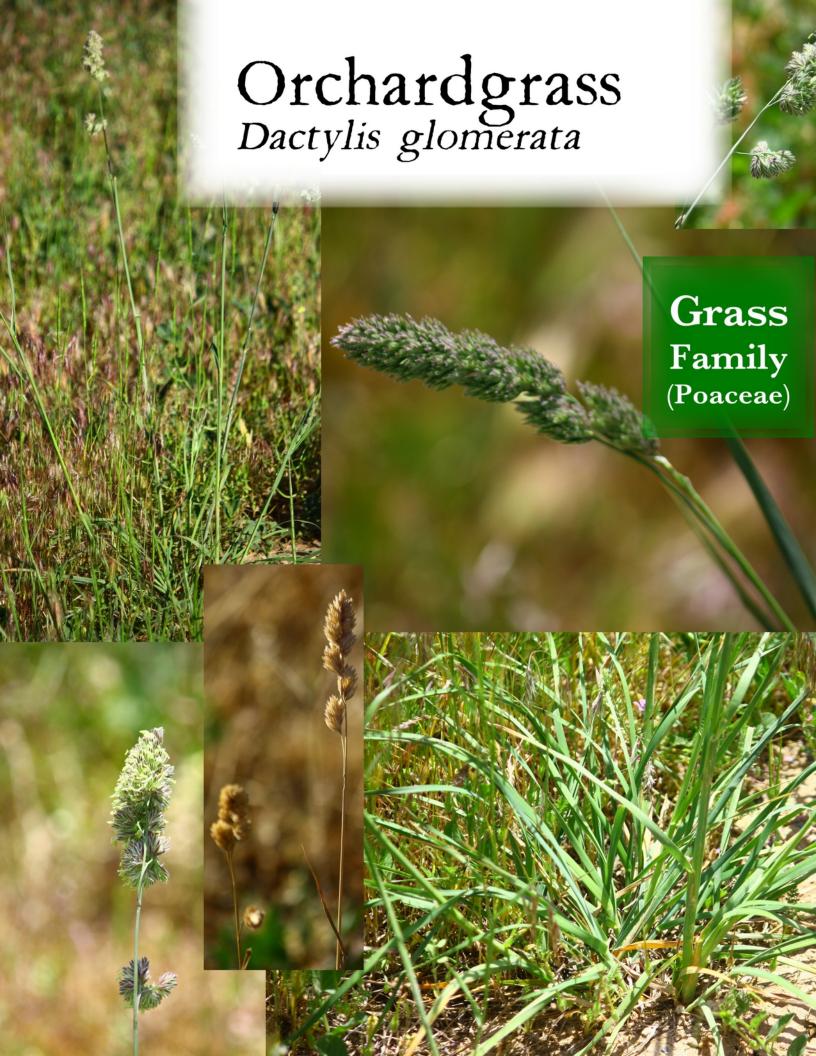
### Uses

Primary use: Preventing or stopping erosion.

Edibility: None known.

Medicinal: None known.

Ecological: As with other brome grasses, 6eld brome is a good grass for preventing or stopping erosion. Field brome is considered a good cover crop for lands intended for growing raspberries and other plants that require surrounding organic material. <sup>149</sup> It can also be grown and harvested as hay, and used as such. It has also been used as green manure, meaning it is pulled up and used (sometimes buried) as mulch or compost for other plants.



### **Orchardgrass**, Dactylis glomerata

AKA cock's-foot and cat grass. Orchard grass is a cool-season perennial, native to Eurasia and northern Africa.

## <u>Uses</u>

### Primary use: Hay.

Edibility: None known.

Medicinal: Orchardgrass is a folk remedy for tumors, kidney problems, and bladder issues. 150

Ecological: A good erosion treatment/prevention plant, <sup>151</sup> orchardgrass is also a good source of hay, <sup>152</sup> and can be used for any purposes for which hay may be needed. It is also a good food source for livestock, deer, elk, mice, voles, gophers, and birds.

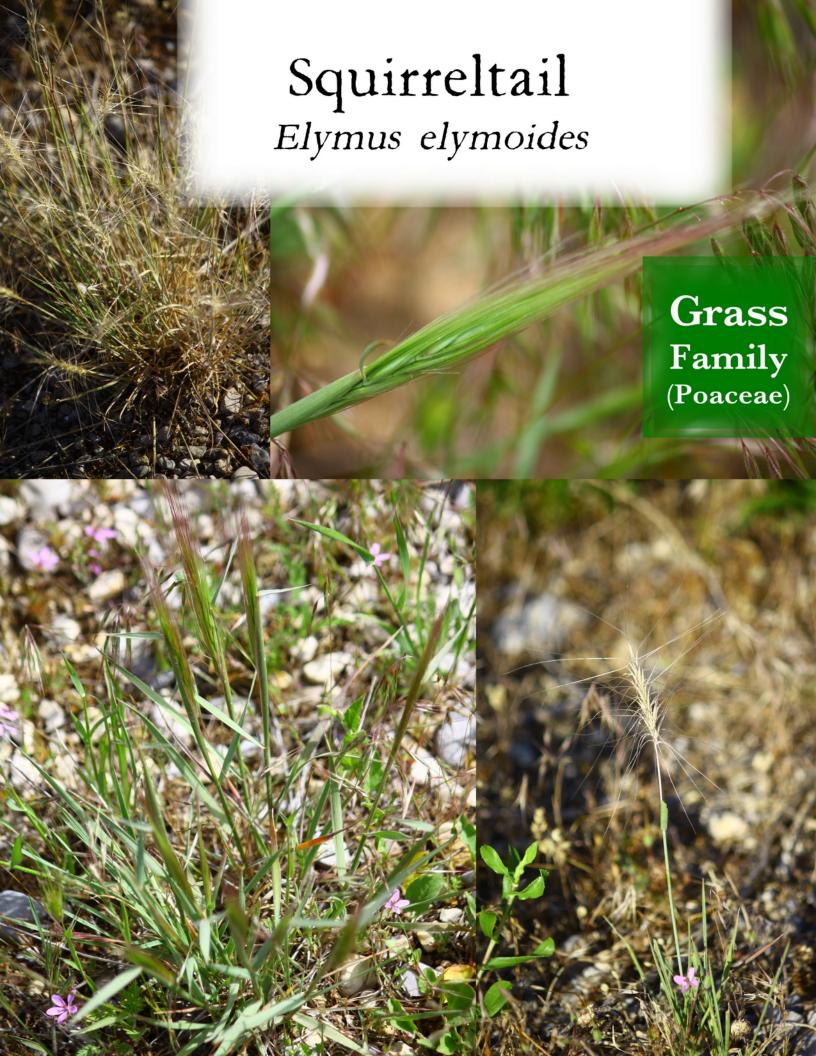
Practical/Artistic: As with any hay grass, orchardgrass can be used for various craft projects, bedding, etc.

Cautions: Orchard grass is one of the perpetrators for those prone to hay fever.

<sup>50</sup> http://www.pfaf.org/user/Plant.aspx?LatinName=Dactylis+glomerata

<sup>51</sup> http://www.naturalmedicinalherbs.net/herbs/d/dactylis-glomerata=cock's-foot.php

https://www.ncbi.nlm.nih.gov/pubmed/23333750



### **Squirreltail**, Elymus elymoides

AKA wild rye. Squirreltail is a perennial, native to the western United States.

# <u>Uses</u>

### Primary use: Grain for food.

Edibility: As with most grasses, the grains of squirreltail can be ground into 70ur and cooked like wheat or rye. <sup>153</sup> The Kawaiisu parched, pounded, and cooked big squirreltail seed into a thin mush to eat. <sup>154</sup>

Medicinal: None known.

Ecological: Squirreltail is a hardy, drought-resistant (can take annual precipitation as low as 5 inches) grass that can tolerate high amounts of salt, alkali, and lime, and is a very good pioneer in the recovery of areas high in all three. <sup>155</sup>It also successfully grows on steep slopes, so it has good potential for erosion control. It also makes an important foraging grass for livestock.

Cautions: Do not eat the grains if there is black, wormlike fungus on the plant.

These may be ergot, which can cause ergotism in people.

<sup>153</sup> http://www.eattheweeds.com/quack-grass/

http://naeb.brit.org/uses/13045/

http://stevensonintermountainseed.com/devsiseed/?product=elymus-multisetus

### **Quackgrass**, Elymus repens

AKA couch grass, common couch, twitch, quick grass, quitch grass, dog grass, scutch grass, and witchgrass. Quackgrass is a perennial, native to Eurasia and Africa.

# <u>Uses</u>

Primary use: Roots dried and ground for 70ur.

Edibility: Edible grains can be prepared like wheat (ground, baked, boiled, etc) after hairs on the grain are singed oC But the more common edible use of quackgrass is the roots, which can be dried and ground into 70ur. Then the 70ur can be used like any other 70ur. The roots (though stringy) have starch and taste rather sweet, and can even be used to make syrup.

Young leaves and shoots can be eaten raw, such as in salads, sandwiches, etc.

Medicinal: Quackgrass is diuretic and increases urinary 70w. <sup>156</sup> The seed might be used as a form of inulin for diabetics, though there isn't much research on this. The root can be used to treat liver, kidney, and urinary problems. It's especially considered useful in treating kidney diseases <sup>157</sup> and urinary tract problems. It is even used in combination with other herbs in treating gout and rheumatism. <sup>158</sup>

Ecological: Quackgrass has sometimes been intentionally imported/planted for erosion control. Animals receive the medicinal qualities of quackgrass, and even cats and dogs will eat quackgrass leaves to remedy their problems. A tea from the root can be used to expel worms. A wash of the tea can be used to treat swollen limbs.

Quackgrass makes an excellent mulch for other plants, and some have used an infusion of it as plant food. It is also a food source for livestock, horses, etc, especially when the plant is young.

Practical/Artistic: The roots can be used to make a gray dye. 159

<sup>56</sup> http://www.eattheweeds.com/quack-grass/

<sup>57</sup> http://www.botanical.com/botanical/mgmh/g/grasse34.html

<sup>58</sup> http://commonsensehome.com/quackgrass/

http://www.naturalmedicinalherbs.net/herbs/e/elytrigia-repens=couch-grass.php

 $Cautions: \hbox{Do not eat the grains if there is black, wormlike fungus on the plant.}$ 

These may be ergot, which can cause ergotism in people.



### **Slender Wheatgrass**, Elymus trachycaulus

AKA bearded wheatgrass or wild rye. Slender wheatgrass is a perennial, native the United States.

## <u>Uses</u>

Primary use: Animal feed and land restoration.

Edibility: None known.

Medicinal: None known, though the Navajo would feed slender wheatgrass to dogs to induce vomiting, but they also fed the grass to their horses as fodder.

Ecological: Slender wheatgrass is well adapted to saline and alkaline soils, and it makes a good erosion-protection grass, making it a good land restoration plant. <sup>160</sup> It has even been used to clean up lands where there have been oil spills, chemical contamination, etc. <sup>161</sup> It's also a good forage grass for all livestock. It's also a favorite of deer, elk, moose, grouse, bighorn sheep, mountain goat, and various rodents. <sup>162</sup> It also provides shelter and warm cover for birds and small mammals. Ducks use it for nesting.

Practical/Artistic: Slender wheatgrass makes excellent quality hay,

Cautions: Though closely related to quackgrass and squirreltail, both of which have edible properties, I can 6nd nothing to suggest that slender wheatgrass is either edible or toxic. My recommendation is to feed the grass to animals, but don't eat it yourself.

<sup>160</sup> Glover, D. E., et al. "Agronomic characteristics and nutritive value of 11 grasses grown with irrigation on a saline soil in southwestern Saskatchewan". Canadian Journal of Plant Science. 84(2004): 1037-1050.

<sup>61</sup> http://plants.alaska.gov/pdf/plant-7yers/WainwrightWheatgrass.pdf

<sup>162</sup> http://www.fs.fed.us/database/feis/plants/graminoid/elytra/all.html



### Wall barley, Hordeum murinum

AKA false barley, mouse barley, smooth barley, and hare barley. Wall barley is an annual grass, native to Eurasia and northern Africa.

# <u>Uses</u>

Primary use: Edible grain used like traditional barley.

Edibility: The seed (grain) can be prepared like traditional barley (Hordeum vulgare), such as being ground into 70ur, used in cereal or bread, and eaten as porridge. The seeds are used in making piñole. 163

Medicinal: A decoction of wall barley has been known to be useful for treating bladder issues.

Ecological: Wall barley is eaten by livestock and wildlife, though this becomes more diUcult once the seed heads have formed, as the dry seed heads can poke and possibly injure animals.<sup>164</sup>

Cautions: As mentioned, the seed heads of wall barley can become injurious to animals. That said, most animals know to leave it alone.



#### **Bulbous bluegrass**, Poa bulbosa

AKA bulbous meadow-grass. Bulbous bluegrass can be either annual or perennial, and is native to Eurasia and North Africa.

## <u>Uses</u>

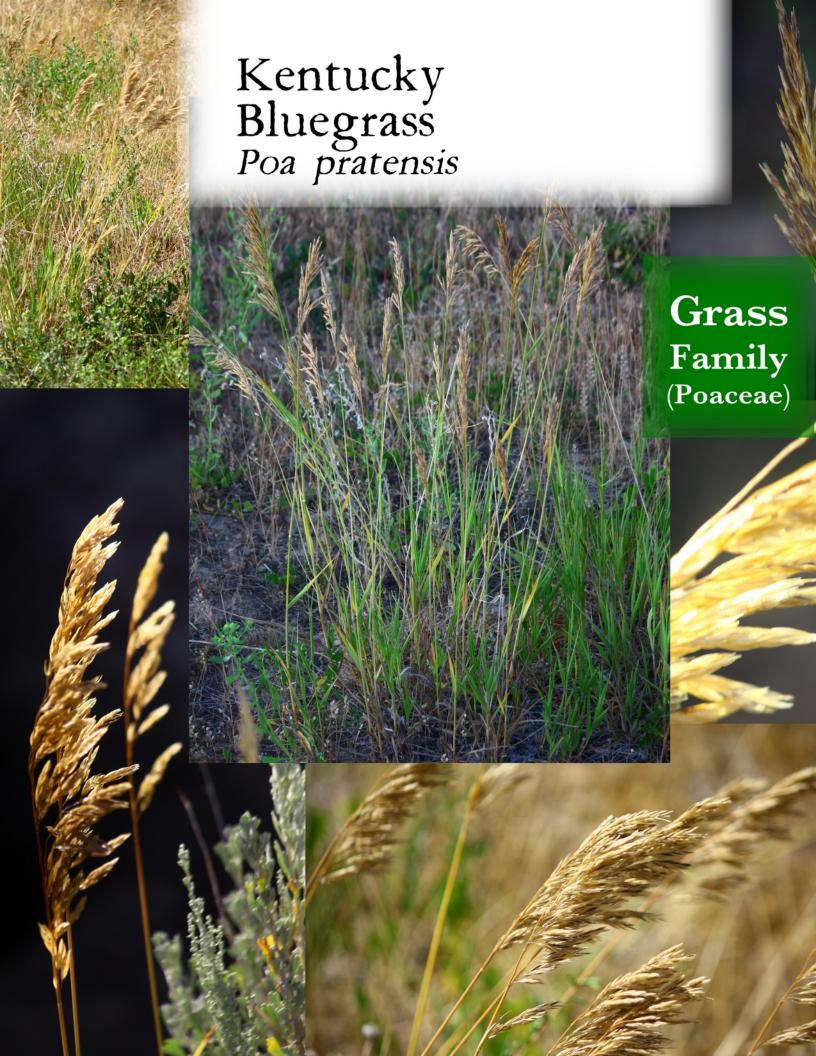
Primary use: Good for wildlife and livestock food.

Edibility: None known.

Medicinal: None known.

Ecological: Bulbous bluegrass has a bulb at the base of the stem that provides more starch and fat than most grasses, so they make good grazing plants for livestock and wildlife, including deer, elk, deer mice, sheep, birds, rabbits, and ground squirrels. <sup>165</sup> The bulbs can be stored for months, sometimes years, and replanted, and the grass will grow from it. <sup>166</sup>

Cautions: Though most wild grass grains are edible, I can 6nd nothing about bulbous bluegrass being edible. Best avoid eating this plant unless you can verify with an expert that it can be safely ingested.



### **Kentucky Bluegrass**, Poa pratensis

AKA smooth meadow-grass and common meadow-grass. Kentucky bluegrass is a perennial, native to Eurasia, Africa, and North America, meaning it is both native and introduced.

### <u>Uses</u>

Primary use: Erosion control/prevention and animal feed.

Edibility: None known.

Medicinal: None known.

Ecological: Kentucky bluegrass is a food plant of the caterpillars of the butter7ies Meadow Brown and Gatekeeper (Maniola jurtina<sup>167</sup> and Pyronia tithonus<sup>168</sup>). Sun beetles (Amara aenea<sup>169</sup>) and Cicadellidae feed on the unripe grains.

Kentucky bluegrass has potential to become a thick grass groundcover, making it a beautiful solution for potential erosion. It's also one of the most common cool-season lawn grasses.

It is also a good wildstock/deer/elk/ rabbit feed grass. Birds eat the seeds. Ducks and geese also enjoy Kentucky bluegrass. 170

Cautions: The biggest ecological mistake most people make with Kentucky

bluegrass and other lawn grasses is that they plant it in a thick, well guarded monoculture, and then fertilize the life out of it. That kind of system is not sustainable to life, and it makes the only uses of the plant beauty and ground cover. In a natural system, where grass grows freely with other species, not only can it thrive, but it can provide dozens of uses to the ecosystem at large.

<sup>67</sup> http://www.learnaboutbutter7ies.com/Britain%20-%20Maniola%20jurtina.htm

<sup>168</sup> http://www.learnaboutbutter7ies.com/Britain%20-%20Pyronia%20tithonus.htm

<sup>169</sup> http://www.gbif.org/species/1035185

<sup>170</sup> http://www2.fcps.edu/islandcreekes/ecology/kentucky\_bluegrass.htm



### Johnsongrass, Sorghum halepense

Johnsongrass is a perennial, native to the Mediterranean.

## <u>Uses</u>

#### Primary use: Edible grain.

Edibility: Johnsongrass has edible grain that can be ground into 70ur for bread and cakes or cooked like rice or millet.<sup>171</sup>

Medicinal: The seed/grain of Johnsongrass can be used as a diuretic, or used to reduce in ammation.

Ecological: Johnsongrass is a good hay, and can be used as biomass for increasing organic material in the soil.<sup>172</sup>

Cautions: For those prone to hay fever, Johnsongrass may aggravate allergies.

Do not eat the grains if there is black, wormlike fungus on the plant. These may be ergot, which can cause ergotism in people.

### Medusahead, Taeniatherum caput-medusae

AKA medusahead wildrye, medusahead rye, rough medusahead. Medusahead is an annual grass, native to Europe.

### <u>Uses</u>

Primary use: Young grass eaten by livestock.

Edibility: None. Potentially toxic.

Medicinal: None known.

Ecological: Before medusahead develops seedheads, animals will graze it. <sup>173</sup> Once it develops the heads, it becomes too spiny for them to eat without either being pricked on the face or irritated in the throat.

Cautions: When medusahead dries, it becomes attached to everything, and stabs into skin, clothes, and shoes so aggressively as to make 6elds of medusahead practically untravelable. It can also hurt the nose, mouth, and eyes of grazing animals. Without good polyculture in a system, this grass tends to 6ll the gap. It is also a 6re hazard. Since medusahead is left by animals once it matures, it can gradually become a monoculture.



#### Rye, Secale cereale

AKA Cereal rye. Rye is a reseeding annual grass, native to Eurasia.

### Uses

#### Primary use: Grain used for rye 7our/rye bread.

Edibility: Rye is exactly what Subway is talking about when they ask if you want wheat, cheese, or rye bread. The grain of rye is ground into 70ur and used to make rye bread. Though often mixed with wheat 70ur, it's one of the few breads that can be made without any wheat 70ur. Rye 70ur can also be used for making cakes, muUns, etc. It does contain some gluten, though not as much as wheat, so it makes a heavy bread. It's also an incredibly healthy bread. 174

The grain can also be roasted and used for making malt. 175

The seeds (grain) can also be sprouted and eaten in salad.

Though 6nicky to harvest, because it reseeds itself annually so well, rye could be a potential staple food, and ought to be encouraged to grow and proliferate.

Medicinal: The seed can be made into a poultice/paste and applied to tumors. The 6ber in the seed also makes it an eCective laxative.

Ecological: Rye grass makes a good green manure/mulch. Because of its extensive and deep root system, rye is a good erosion protection, and helps hold nutrients in the soil throughout the cold winter months. For this reason, rye is often planted in the fall, because it sprouts and then builds it's roots during the coldest winter months.

Practical/Artistic: Rye grass makes an excellent hay, with one of the stronger stocks for that use. Because of its strong stock, it has also been used for basketmaking, packing material (for postage), rugs, roo6ng (thatching), brickmaking, archery targets, and mushroom compost.

<sup>74</sup> http://www.whfoods.com/genpage.php?tname=foodspice&dbid=65

http://www.pfaf.org/user/Plant.aspx?LatinName=Secale+cereale

Cautions: Rye is susceptible to the ergot fungus, so if the grass has black, worm-like bits on the head, don't eat it! 176

### Mallow Family—Malvaceae

The mallow family is one of my (admittedly many) favorites. And if you look at the individual members, taste them, and use them for their unique culinary purposes, I think you'll see why. Just as an example, may I introduce to you the one member of the family you may be already familiar with—sort of... the marsh mallow. And yes, that's where marshmallows came from originally.

Some of you gardeners may have heard of the family member known as hibiscus, and some of you foodies may have heard of okra. But I'm sure all of you have heard of cotton, and guess who else is in the family? Yup. Chocolate. Er... cocoa. Cacao—whatever.

Anyway, give it a chance, and I think you'll come to like the mallows.





#### Common Mallow, Malva Neglecta

Common mallow is an annual,<sup>177</sup> introduced into the United States, but native to Eurasia and Northern Africa.

### <u>Uses</u>

Primary use: Greens and fruit eaten raw or cooked.

Edibility: The whole plant is edible, raw or cooked, and has a gentle, mild, 7 avor. As with other mallows, it becomes slimy when chewed. This mucilage is the same basic substance used for the candy made by common mallow's cousin, marsh mallow. As such, common mallow can also be used to make a form of marshmallow. This is done by boiling a handful of unripe (green) seeds (the root would likely do well, too) in water until the liquid becomes gooey and sticky, with long drip-strings from the spoon. The boiling gloop is then whipped into sweetened and beaten egg whites (which cooks the eggwhites), and the resulting meringue is dripped out with a teaspoon on wax paper and left to dry. When it's cooled and dry, the marshmallows (or commonmallows) are ready to eat!

The leaves also make a great addition to salads and sandwiches, or can be cooked into soups, casseroles, pasta, or anything that calls for spinach or salad greens. The unripe seeds add a nice, nutty texture to soups, and don't have to be separated from the sepal (the green star-pouch that surrounds the seed) before cooking.

Common mallow can also be used as a substitute for rennet in making cheese.

Medicinal: Common mallow is often used to treat various forms of in7ammation, internally and externally.<sup>178</sup> Like scarlet globemallow, common mallow is good for the skin, and a wash/salve/lotion made from the leaves and root can be used to treat sunburn, skin irritations, and rash. A common mallow tea can be used to treat bronchial/respiratory viruses and soreness. Some even use this as a daily treatment for asthma. This is because the mucous-like juices from the mallow form a comforting, protective coating in the throat that relieves irritation. This can also be created from leaves or root, fresh or dried.<sup>179</sup> The root tends to be the most potent for these purposes, and a mature mallow can have a thick, almost carrot-like root. It can also be to make

<sup>77</sup> http://www.pfaf.org/user/Plant.aspx?LatinName=Malva+neglecta

<sup>78</sup> https://www.drugs.com/npp/mallow.html

http://livinga6eld.com/Plants\_Mallow.htm

moisturizing hand lotion.

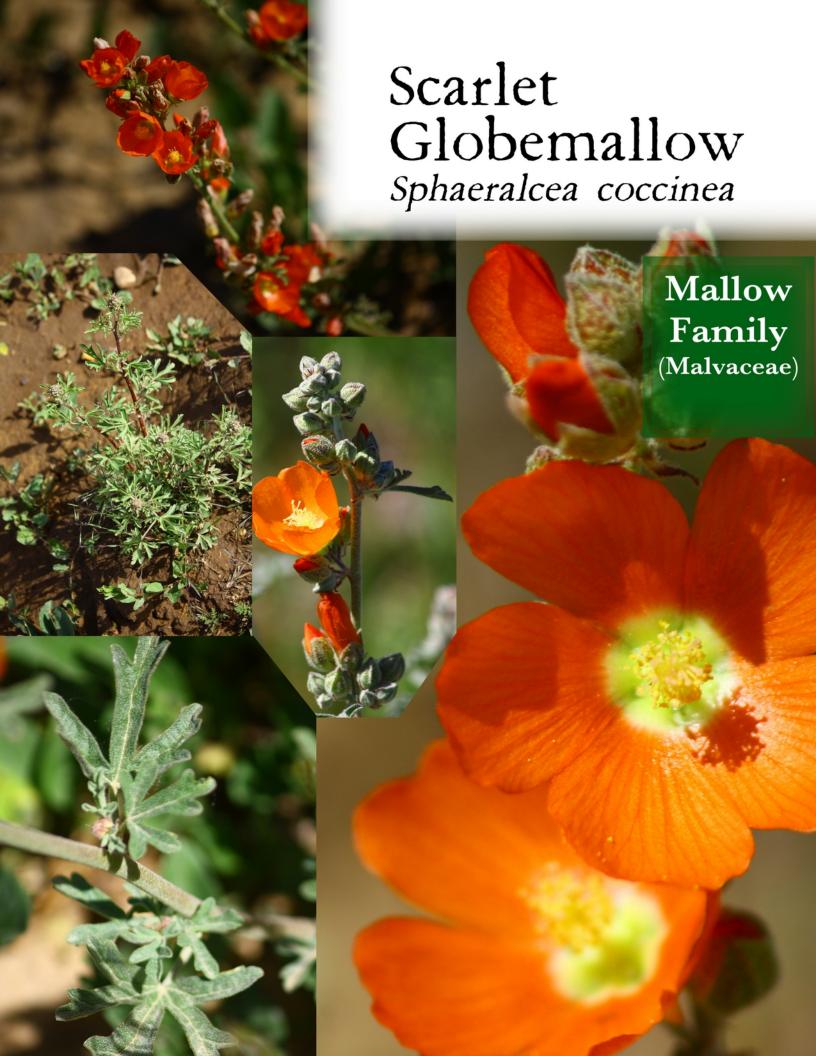
Mallow has also been used to treat digestive ailments. 180

Though a subtle medicine, common mallow has been shown to be an eCective one:<sup>81</sup>

Cautions: If the common mallow is grown in ground where nitrogen is added to the soil as fertilizer (such as lawn grass), it can absorb too much nitrate, which isn't safe to eat. Otherwise it is perfectly healthy and wholesome to eat. That being the case, it may be best to eat common mallow that isn't surrounded by a thick patch of nitrogen-6xing plants, like beans, peas, and other legumes, just to be sure.

<sup>180</sup> Gregory L. Tilford, Medicinal Plants of the West Missoula, Mortana: Mourtain Press Rublishing Company, 1997), 94

<sup>181</sup> Charles W. Charles W. Kane, Herbal Medicine of the American Southwesticson, Arizona: Lincoln Town Press, First edition 2006), 125





### Scarlet Globemallow, Sphaeralcea coccinea

Scarlet globemallow is a perennial native to the western United States.

# <u>Uses</u>

Primary use: poultice for irritated, burned, itchy, or blistered skin.

Edibility: The fruit (the little cheesy pouch) is the most popularly eaten part of the globemallow. Some sources suggest that the leaves can be eaten in salad, raw or cooked. This is likely true, since most members of the mallow family (like okra and common mallow) are edible, though I've been unable to determine the certainty of edibility of globemallow leaves. The Navajos ate the root. The tiny hairs (mostly noticeable when eating the fruits) are probably the biggest deterrent to their being eaten, since they give it a hairy texture, and the hairs detach easily. That said, it appears that said hairs are harmless.

Medicinal: If you chew up the plant (any part of the plant, but the root is the most eCective) and rub it on your hands, they become momentarily immune to scalding hot water. The same treatment can be used to treat in a wounds. The plant's natural mucilaginous properties make it good for soothing irritated dry skin, and the blackfoot indians used the same crushed paste as a cooling agent to burns and blisters. 184

A poultice (paste) from the roots will reduce in 7 ammation on sores, draw venom out of snakebites, or be used as a paste for making a cast for broken bones. It can also be used to stop bleeding, treat stomachaches and coughs, and even treat acne. Globemallow makes a good tea for colds and 7u. 185

A tea from the leaves or root can be drunk to treat urinary tract infections. The plant is often used to draw out unwanted substances from the body, such as slivers, pimples, and boils. 186

<sup>182</sup> http://bearmedicineherbals.com/so-many-mallows-a-native-nourishing-tonic.html

<sup>83</sup> T.K. Lim, Edible Medicinal and Non-Medicinal Plantsolume 9, page 79

r84 http://www.wild7ower.org/plants/result.php?id\_plant=SPCO

<sup>185</sup> Bureau of Land Management Anasazi Heritage Center Plant Guizduz edition, page 33

http://www.blm.gov/style/medialib/blm/co/6eld\_oUces/ahc/documents.Par.75520.File.dat/Plant\_Guide\_2013.pdPar.75520.File.dat/Plant\_Guide\_2013.pd f

Ecological: Globemallow grows well in overgrazed, arid, alkali ground, making it a good pioneer for ground restoration. The deep roots keep it alive through 6re and drought. Being non-competitive plant, it will sometimes be suppressed by other plants, but after a disturbance (tilling, 6re, etc), it will often return. Plants propagate best by rhizomes (underground roots), and are not easily propagated through other means, so if protected, globemallow can be a lovely yet unobtrusive addition to the landscape.

Practical/Artistic: Scarlet globemallow is a simply beautiful little 70wer that becomes more red and showy when provided with occasional water.

Cautions: The tiny detachable hairs sometimes come oCand can be irritating if they become airborne and get in the eyes. Since little is known about the edibility of the leaves and 70wer, it may be best to avoid eating them in quantity.

# Polemoniaceae—Phlox Family

Another family of lovelies. Not many edibles (a few, from what I've heard), but never underestimate the value of lovelies. Without the lovelies, the bees might not discover our garden pea 70wers, and we'd have no peas. Thank you, phlox!





## Stansbury Phlox, Phlox stansburyi

AKA desert mountain phlox, cold-desert phlox, or pink phlox. Stansbury phlox is a perennial wild7ower, native to southwestern United States.

# <u>Uses</u>

Primary use: Beautifying landscape and inviting spring pollinators.

Edibility: Though a few other species of phlox are edible, and the Navajos and Kayentas ate the greens of Stansbury phlox with meat or as an emergency food, 189 other sources suggest that the smaller phlox's (and this is probably among the smallest) are not edible. 190

Medicinal: The Navajo used Stansbury phlox as a contraceptive to avoid pregnancy, <sup>191</sup> though I'm not sure what preparation method was used for this purpose.

Ecological: These little beauties are a delight when they show up in the spring, so inconspicuous before they bloom. But once they bloom, they are some of the earliest pollinator 70wers, inviting pollinators into the area before your intended plants are even 70wering, so that when your plants bloom, the pollinators will already be there.

After the 70wers fade and fall when summer hits, the plants seem to disappear until either fall (depending on how cool and wet the season is) or the following year. Being a native of a relatively small region of the southwestern United States, and being too inconspicuous to become invasive, they can be a great companion to whatever you're growing, be it garden, lawn, or agricultural crops.

Phlox is also a favorite food source of groundhogs, rabbits, and deer, as well as hawk moths and other butter7ies and moths. 192

Cautions: Don't eat Stansbury phlox if you are pregnant or trying to get pregnant, as it was used by some Native Americans as a contraceptive.

<sup>189</sup> Daniel E. Moerman, Native American Food Plants: An Ethnobotanical Diction Portland, Oregon: Timber Press, 2010), pg. 179

<sup>190</sup> http://www.thompson-morgan.com/edible-70wers

<sup>191</sup> Laura F. Klein, Women and Power in Native North Ameri(Morman, Oklahoma: University of Oklahoma Press, 2000) pg. 167

<sup>92</sup> http://jeCco.us/coopext/plantdetail.do?sna=Phlox%2ocondensata&image=0

# Polygonaceae—Buckwheat Family

Yes it's the buckwheat family, but don't confuse it with other kinds of wheat, which are grasses. Buckwheat is diCerent. Actually, the most commonly known member of the buckwheat family (besides buckwheat, of course) is rhubarb. There aren't too many other common plants in this family, and very few have edible uses, but there is a surprising number of medicinal uses that make this family stand out among prairie plants.





# Prostrate knotweed, Polygonum aviculare

Prostrate knotweed is an annual herb, native to both Eurasia and North America.

# <u>Uses</u>

Primary use: nosebleeds and stopping blood 70w on wound surfaces.

Edibility: Very young leaves can be eaten, and are rich in zinc. The seeds, if cooked, can be eaten. 193 Though it has edible properties, and is probably 6ne in small doses, prostrate knotweed might be best used primarily for its medicinal purposes.

Medicinal: Prostrate knotweed is often used as an astringent and diuretic, and can be used for hemorrhoids and dysentery. It can be used both internally and externally for treating wounds and bleeding. It's astringent properties make it useful for contracting the heart (as a heart tonic), discharging bile (inducing vomiting), and stopping bleeding (including nosebleeds). It has also been used for destroying parasitic worms, fever reduction, reducing in 7 ammation, and removing kidney stones or gallstones. 194

As to how prostrate knotweed can be used for nosebleeds, the juices are extracted from the plant and then squirted up the nose. More juice is then rubbed onto the temples. For sores, the juice is made into ointment (infused with oil, water, or other liquid) and rubbed onto the sore.

It can be harvested fresh or dried for later use.

Prostrate knotweed can also be used to sooth/soften/moisturize skin, like hand lotion.

Knotweed is also used to treat bronchitis, cough, gingivitis (gum disease—it prevents plaque buildup in the teeth), and sore throat or mouth. 195

One site provides the following useful details:

A strong tea held in the mouth for 5 minutes relieves toothache and stops bleeding gums. Prolonged use is said to harden loose, spongy gums and make teeth less sensitive. Helps prevent tooth decay.

<sup>193</sup> https://archaeology.uiowa.edu/erect-knotweed

<sup>94</sup> http://www.naturalmedicinalherbs.net/herbs/p/polygonum-aviculare=knotweed.php

http://www.webmd.com/vitamins-supplements/ingredientmono-537-knotweed.aspx? activeingredientid=537&activeingredientname=knotweed

Knotgrass is recommended for diarrhea, dysentery, and enteritis. Good for bronchitis, whooping cough, jaundice, and lung problems. As a blood coagulant, it is useful for all forms of internal bleeding, including stomach ulcers, snake bites, rheumatism, kills worms, blood purifer, infammations, swellings, toothache, gangrene, canker sores, flthy ulcers, sores, venereal sores, ear infections, pyelitis, and piles. The fresh juices can be used to stop bleeding from the gums, wounds and from nosebleeds. Knotgrass has been successfully used for cholera infantum, a serious condition with simultaneous vomiting and diarrhea in infants. Taken regularly, the tea or the tincture dissolves gravel and stones.

#### Formulas or Dosages

Infusion: steep 4 tsp. fowering herb in 1 cup water for 5 minutes. Take 1 to 1 1/2 cups a day, a mouthful at a time, as needed.

Decoction: use 4 tsp. fowering herb in 1 cup water. Take a mouthful at a time, as needed. For stomach and intestinal problems, take 1 to  $1\ 1/2$  cups a day; for lung problems  $1\ 1/2$  cups a day.

Tincture: take 10-20 drops of knotgrass with 5-20 drops of shave grass in water, three or more times a day. 196

Cautions: Some members of the same genus have been known to cause

abnormal reactions in the skin, but such reports haven't yet discovered if prostrate knotweed is included in these problems. Oxalic acids included in some of the same genus also encourage mineral de6ciency by making other nutrients less available. This can be reduced by cooking. Despite the previous medicinal uses, some reports suggest that those with gout, kidney stones, and hyperacidity should be cautious with using this plant, in case it might aggravate the condition. <sup>197</sup> Don't use prostrate knotweed if you are on other medications. <sup>198</sup>

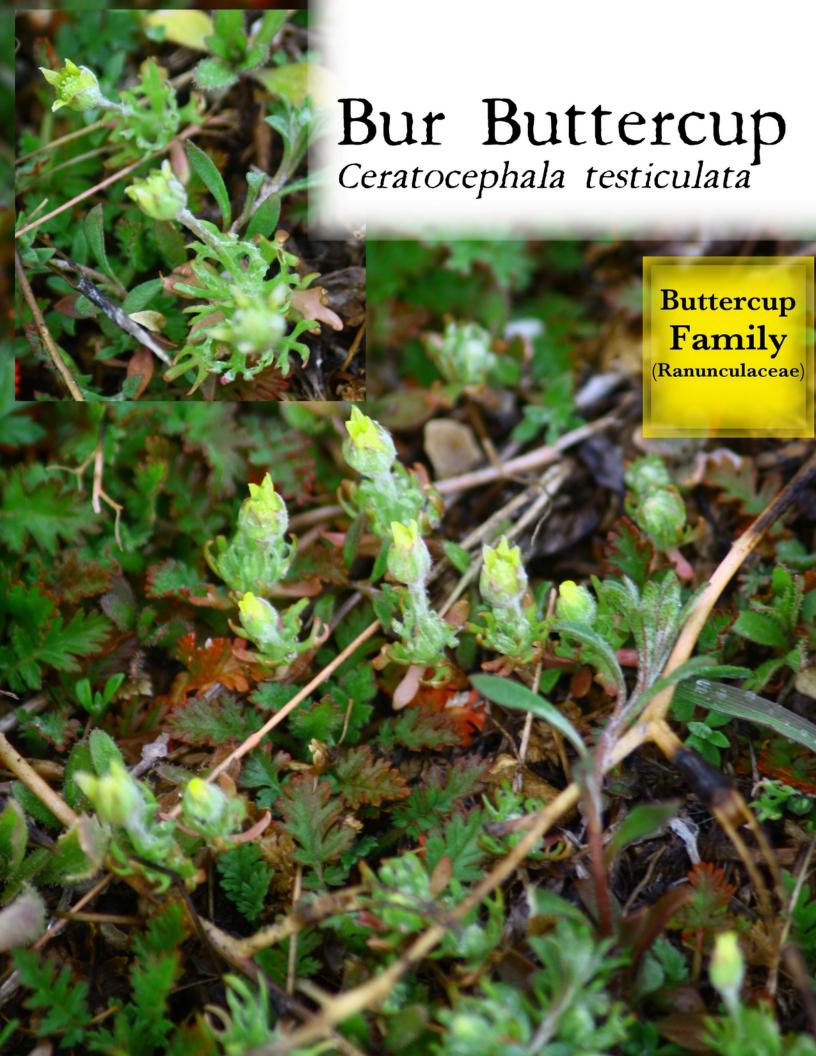
<sup>196</sup> http://medicinalherbinfo.org/herbs/Knotweed.html

<sup>197</sup> http://www.pfaf.org/user/plant.aspx?LatinName=Polygonum+aviculare

<sup>198</sup> http://herbpathy.com/Uses-and-Bene6ts-of-Knotgrass-Cid2728

# Ranunculaceae—Buttercup Family

Be careful, buttercups are toxic! Luckily, in the open prairie, buttercups tend to grow tiny and inconspicuous. Just know what you're looking at before you pop anything in your mouth. But once again, where they can be dangerous as an edible, they may have some useful external medicinal and practical properties.





# **Bur Buttercup**, Ceratocephala testiculata

AKA curveseed butterwort. Bur buttercup is an annual, native to Eurasia.

The bur buttercup is a tiny plant, usually only an inch or two tall at full size. One of the 6rst plants to 70wer after the snow melts. 199

# <u>Uses</u>

Primary use: inviting early pollinators and bene6cial insects.

Edibility: NONE! Poisonous!

Medicinal: Used externally only. Traditional medicine of central Asia used bur buttercup to treat wounds, injuries, eczema, and other skin diseases. This was done by making an ointment out of the dried herb. The fresh oil has been used to treat in7ammatory oedema. 200 Used also to treat pyoderma and furunculosis. Oil from the fresh plant helps reduce in7ammatory edema and "stimulate steady increase in tissue granulation and wound epithelization (Khalmatov 1964)." 201

Ecological: Good source of food for moths and butterzies. Bur buttercup is a very early pollinator, and creates a soft blanket of greenery over the ground—until the burs mature, at which time they become vicious thorns.

Caution: POISONOUS, DO NOT EAT. Toxic to both people and livestock.

Bur buttercup contains ranunculin, which becomes toxic when the plant is crushed (such as by chewing or breaking). 202

<sup>199</sup> https://en.wikipedia.org/wiki/Ceratocephala\_testiculata

<sup>200</sup> http://www.cabi.org/isc/datasheet/113121

<sup>201</sup> Sasha W. Eisenman, David E. Zaurov, Lena Struwe, Medicinal Plants of Central Asia: Uzbekistan and Kyrgyzstanew York: Springer, 2013), 69





# Slim Larkspur, Delphinium depauperatum

AKA Dwarf larkspur or Blue Mountain Larkspur. Slim larkspur is a perennial, native to California, but found in other western United States.

# <u>Uses</u>

Primary use: Beauty (such a lovely little 70wer), and inviting pollinators.

Edibility: NONE! Toxic. Some plants in the same genus are even lethal if eaten in suUcient quantity.

Medicinal: None. Some sources suggest that there are some uses if used topically in small quantity,<sup>203</sup> but the risks of overdose are too chancy to risk it.

Ecological: Larkspur is pollinated by butter7ies, moths, and bumblebees, making it an important plant to invite pollinators.<sup>204</sup>

Practical/Artistic: Mixed with alum, the 70wers can be used to make blue ink, 205 and probably could be used to make dye as well.

Cautions: Do not eat this plant. As with many other 70wers in this family, larkspur is very poisonous, and has even been known to poison grazing animals.

http://www.bionity.com/en/encyclopedia/Delphinium.html

<sup>204</sup> http://www.inaturalist.org/taxa/48493-Delphinium

<sup>205</sup> https://www.tititudorancea.net/z/delphinium.htm

# Verbenaceae—Verbena Family

The verbena family is one of the favorites of old folk medicine, and for good reason. They're versatile and have a lot of bene6ts that can be easily overlooked if you assume this is just a common weed.





## Carpet vervain, Verbena bracteata

Carpet vervain is a reseeding annual (sometimes biennial). It is native to all of North America.

# <u>Uses</u>

Primary use: tea for mild sedative and promoting perspiration.

Edibility: Utah Southern Piutes ate the seeds. 206 The rest of the plant is best used medicinally.

Medicinal: Carpet vervain is a species of verbena, and can be prepared like other kinds of verbena. Verbena (especially the sister species, Verbena o6cinalisthough likely all verbena have similar properties)<sup>207</sup> is good at promoting sweating, which is helpful for breaking a fever. It is prepared for this purpose by mixing it into a liquid (which is referred to as infusion). Verbena tea might be an eCective method of preparation. Since it promotes perspiration, it can also be used to moisturize dry skin.

To prepare a tea to drink to assist with sleeping, steep the plant in hot water for 20 minutes, and then drink it 20 minutes before bedtime. <sup>208</sup>

It also has diuretic properties.

Verbena is a mild sedative, which can be used for relieving tension or nervousness. As such, it is also used to ease stress/tension headaches. <sup>209</sup> Verbena's bitter taste may be part of the reason for it's eCects on the parasympathetic nervous system. <sup>210</sup> Verbena may be able to aid in digestion and sleep.

The Navajo used a poultice of carpet vervain to treat centipede bites.<sup>211</sup>

Ecological: Carpet vervain is an inconspicuous ground cover. Because the 70wer is

<sup>206</sup> Handbook of North American Indians: Great Basin, (Washington, DC: Smithsonian Institution, 1986), 79

<sup>207</sup> http://montana.plant-life.org/families/Verbenaceae.htm

<sup>208</sup> http://www.statemaster.com/encyclopedia/Verbena

<sup>209</sup> Charles W. Kane, Herbal Medicine of the American Southw (Fucson, Arizona: Lincoln Town Press, First edition 2006), 196-197

<sup>210</sup> US National Library of Medicine National Institutes of Health, http://www.ncbi.nlm.nih.gov/pubmed/11114149

http://www.kswild7ower.org/7ower\_details.php?7owerID=336

so small, it is good for attracting small pollinators, such as small native bees (including the Halictid bee, Lasioglossum tegularis nd the dagger bee, (Calliopsis andreniform) is moths and skippers. Birds at the seed. <sup>212</sup> Carpet vervain growin degraded soils, adding organic material and making it a good pioneer plant for restoring vitality and productivity to the soil. Since it it tends to be inconspicuous, it happily grown garnvariety of other plants, increasing biodiversity.

# Health and Medicinal Guide

### Health Tonics:

#### Detoxifer

Dandelion, Alfalfa

#### Tonic, Athletic

Sagebrush

#### Tonic, Health

Dandelion, Pancake Prickly Pear, Yarrow

#### Tonic, Heart

Scotch Thistle, Prostrate knotweed

#### Tonic, Muscle

Shepherd's Purse

## Natural Supplements

### Vitamins:

#### Vitamin A

Lambsquarters, Spearleaf Mountain Dandelion, Alfalfa

#### Vitamin B

Spearleaf Mountain Dandelion

#### Vitamin B6

Lambsquarters

#### Vitamin C

Pancake Prickly Pear, Shepherd's Purse, Spearleaf Mountain Dandelion

Vitamin D

Spearleaf Mountain Dandelion

Vitamin K

Filaree

Thiamin

Lambsquarters

Minerals, etc

Calcium

Lambsquarters, Alfalfa, Shepherd's Purse, Pancake Prickly Pear, Spearleaf Mountain Dandelion

Dietary fber

Lambsquarters, Pancake Prickly Pear, Rye

Iron

Spearleaf Mountain Dandelion, Shepherd's Purse

Magnesium

Pancake Prickly Pear

Manganese

Lambsquarters

Potassium

Lambsquarters, Spearleaf Mountain Dandelion, Dandelion, Pricky Pear

Zinc

Spearleaf Mountain Dandelion, Prostrate knotweed

## Amino Acids

Alanine

Bindweed

**Arginine** 

Bindweed

Cysteine

Bindweed

Valine

Lambsquarters

Histidine

Lambsquarters

Isoleucine

Lambsquarters

Leucine

Lambsquarters

Lysine

Lambsquarters

Protein

Kochia, Annual bur-sage

Threonine

Lambsquarters

## Treatments for:

#### Acne

Dandelion, Scarlet Globemallow

#### Anxiety

Filaree, Sowthistle

#### **Arthritis**

Sagebrush, Alfalfa

#### Asthma

Curlycup gumweed, Common Mallow

#### Atherosclerotic plaque

Alfalfa

#### **Boils**

Sagebrush, Scarlet Globemallow

#### **Blisters**

Scarlet Globemallow

#### **Bleeding**

Skunkbush Sumac, Shepherd's Purse, Filaree, Scarlet Globemallow, Prostrate Knotweed

#### **Breast cancer**

Kochia

#### **Broken bones**

Scarlet Globemallow, Spearleaf Mountain Dandelion

#### **Bronchitis**

Curlycup Gumeed, Common Mallow

#### Burns

Lambsquarters, Curlycup Gumweed, Shepherd's Purse, Scarlet Globemallow

#### **Bruises**

Dandelion, Shepherd's Purse

#### Cancer

Kochia, Scotch Thistle, Dandelion, Bindweed

#### Celiac

Alfalfa

#### **Chest Pain**

Rabbitbrush

#### Cold remedy

Yarrow, Sagebrush, Rabbitbrush

#### Constipation

Sagebrush, Dandelion

#### Cough

Sagebrush, Rabbitbrush, Curlycup Gumweed, Biscuitroot, Scarlet Globemallow, Prostrate Knotweed

#### Congestion

Curlycup Gumweed

#### **Diabetes**

Pancake Prickly Lettuce, Dandelion, Quackgrass

#### Diarrhea

Kochia, Lambsquarters, Povertyweed,

Knotweed

#### Dysentery

Kochia, Prostrate Knotweed

#### Eczema

Kochia, Curlycup Gumweed, Dandelion, Bur Buttercup

#### Edema

Bur Buttercup

#### Fever reduction

Yarrow, Sagebrush, Bindweed, Prostrate Knotweed, Carpet Vervain

#### Flatulence

Sagebrush, Whitetop

#### Flu

Russian Thistle, Biscuitroot, Scarlet Globemallow

#### **Furunculosis**

Bur Buttercup

#### **Gallstones**

Dandelion, Prostrate Knotweed

#### Gas pains

Sagebrush, Dandelion

#### Gaut

Dandelion, Quackgrass

#### Hair loss

Skunkbush Sumac, Sagebrush

#### Headache

Sagebrush, Shepherd's Purse, Carpet Vervain, Yarrow

#### Heart remedies

Scotch Thistle, Shepherd's Purse

#### Hemorrhoids

Prostrate Knotweed

#### **Hiccups**

Desert Alyssum

#### **Hydration**

Alfalfa

#### Hypoglycemia

Prickly Lettuce, Dandelion

#### Indigestion

Sagebrush

#### Infammation

Dandelion, Filaree, Johnsongrass, Common Mallow, Scarlet Globemallow, Prostrate Knotweed, Sowthistle

#### Insomnia

Prickly Lettuce, Carpet Vervain

#### **Intestinal problems**

Lambsquarters, Sticky Aster, Prostrate Knotweed

#### Itch

Curlycup Gumweed, Scarlet Globemallow, Lambsquarters, Povertyweed

#### Jaundice

Russian Orach, Prostrate Knotweed

#### Joint pain

Sagebrush, Dandelion, Filaree

#### Kidney

Dandelion, Orchardgrass, Quackgrass,

#### **Kidney Stone Elimination**

Dandelion

#### Low blood pressure

Shepherd's Purse

#### **Mental Illness**

Alyssum Desertorum

#### Menstruation help

Shepherd's Purse, Annual Bur-sage, Bindweed, Sowthistle

#### Moles (skin)

Prickly Lettuce, Spearleaf Mountain, Sowthistle, Dandelion

#### **Mouth Sores and Canker Sores**

Povertyweed, Prostrate Knotweed,

#### Muscle aches

Dandelion

#### Muscle spasms

Prickly Lettuce

#### Nervousness

Carpet Vervain

#### Nosebleed

Prostrate Knotweed, Shepherd's Purse

#### Obsessive compulsion

Filaree

#### Oedema

Bur Buttercup

#### **Opium Habit**

Sowthistle

#### Pain relief

Yarrow, Skunkbush Sumac, Prickly Lettuce, Spearleaf Mountain Dandelion, Sagebrush

#### **Pimples**

Kochia, Scarlet Globemallow

#### Pneumonia

Sagebrush

#### **Pyoderma**

Bur Buttercup

#### Rash

Filaree, Common Mallow, Spearleaf Mountain Dandelion, Povertyweed

#### Rheumatism

Sagebrush, Alfalfa, Quackgrass, Prostrate Knotweed

#### Rickets

Scotch Thistle

#### Scurvy

Lambsquarters, Whitetop

#### Skin eruption

Curlycup Gumweed, Rabbitbrush

#### **Slivers**

Scarlet Globemallow

#### **Smallpox**

Russian Thistle, Rabbitbrush

#### **Snakebite**

Sagebrush, Scarlet Globemallow, Prostrate Knotweed

#### Sore throat

Russian Orach, Sagebrush, Povertyweed, Common Mallow, Tumble Mustard, Biscuitroot, Prostrate Knotweed

#### Sores

Filaree, Scarlet Globemallow, Tansy Mustard, Prostrate Knotweed, Prairie Sun7ower, Rabbitbrush, Spearleaf Mountain Dandelion

#### **Sprains**

Spearleaf Mountain Dandelion

#### Sunburn

Common Mallow

#### **Swelling**

Prairie Sunzower, Dandelion, Filaree, Prostrate Knotweed, Sowthistle

#### Throat ulcers

Povertyweed

#### Tooth decay

Prostrate Knotweed

#### Toothache

Skunkbush Sumac, Annual Bur-sage, Rabbitbrush, Tansy Mustard, Prostrate Knotweed, Sowthistle

#### **Tuberculosis**

Rabbitbrush

#### **Tumors**

Russian Orach, bindweed, Orchardgrass, Rye

#### Type 2 diabetes

Dandelion, Pancake Prickly Pear

#### **Ulcers**

Scotch Thistle, Alfalfa, Prostrate Knotweed

#### Urinary tract infection

Scarlet Globemallow, Quackgrass, Alfalfa

#### Varicose Veins (varicosity)

Yarrow

#### **Voice Loss**

Tumble Mustard

#### Warts

Prickly Lettuce, Sowthistle

#### Wound

Shepherd's Purse, Filaree, Scarlet Globemallow, Prostrate Knotweed, Sagebrush, Scotch Thistle, Bur Buttercup

## Personal Hygiene Plants:

#### Deodorant

Skunkbush Sumac

#### **Perfume**

Skunkbush Sumac

#### Sodium carbonate (AKA soda ash, for cleaning)

Russian Thistle

## Natural Veterinary Medicines:

#### Multi-Medicinal

Sagebrush, Quackgrass

#### **Inducing Vomiting in Dogs**

Slender Wheatgrass

#### Good Plants for:

#### **Antibacterial**

Bindweed, Rabbitbrush

#### Antidepressant

Dandelion

#### Antifungal

Kochia, Bindweed

#### Antimicrobial

Biscuitroot

#### Antioxidants

Red Goosefoot

#### Antiseptic

Sagebrush

#### **Antiviral**

Pancake Prickly Pear, Biscuitroot

#### Astringent

Skunkbook Sumac, Scotch Thistle, Filaree, Prostrate Knotweed

#### Bladder

Orchardgrass, Wall Barley, Dandelion, Shepherd's Purse

#### Blood

Russian Orach, Yarrow, Dandelion, Alfalfa

#### **Blood vessels**

Shepherd's Purse

#### **Blood-sugar Control**

Prickly Lettuce, Dandelion, Alfalfa

#### (Insulin)

Pancake Prickly Pear

#### (Inulin)

Dandelion

#### Cardiovascular system

Russian Orach

#### Childbirth

Shepherd's Purse,

#### Cholesterol reducing

Alfalfa

#### Circulatory system

Yarrow, Shepherd's Purse

#### Coagulation

Prostrate Knotweed

#### Contraceptive

Stansbury Phlox

#### Contractions

Shepherd's Purse

#### **Digestion Help**

Dandelion, Russian Orach, Sagebrush, Alfalfa, Skunkbush Sumac

#### **Disinfectant**

Sagebrush

#### **Diuretic**

Russian Orach, Kochia, Prickly Lettuce, Prostrate Knotweed, Carpet Vervain, Bindweed, Quackgrass, Johnsongrass

#### Expectorant

Yarrow, Curlycup Gumweed

#### Eye wash

Sagebrush, Scotch Thistle

#### Fat reduction

Pancake Prickly Pear

#### Fiber

Lambsquarters, Pancake Prickly Pear

#### Foot bath

Sagebrush

#### Gluten

Rye

#### **Immune system**

Dandelion, Russian Orach

#### Itch cream

Curlycup Gumweed

#### Laxative

Dandelion, Spearleaf Mountain Dandelion, Rye, Bindweed

#### Liver

Alfalfa, Dandelion, Quackgrass

#### Lotion

Common Mallow, Prostrate Knotweed, Russian Orach, Spearleaf Mountain Dandelion, Sagebrush, Prairie Sunzower, Curlycup Gumweed, Scotch Thistle

#### Moisturizer

Common Mallow, Prostrate Knotweed, Carpet Vervain

#### Mouthwash

Skunkbush Sumac

#### Nursing mothers

Filaree, Prickly Lettuce

#### **Pancreas**

Dandelion, Pancake Prickly Pear

#### Parasympathetic nervous system

Carpet Vervain

#### Perspiration

Carpet Vervain, Yarrow, Sagebrush, Bindweed

#### Pituitary gland

Alfalfa

#### **Pseudotropine**

Bindweed

#### Respiratory system

Curlycup Gumweed, Sticky Aster

#### Salve

Prairie Sunzower, Common Mallow

#### **Sedative**

Sagebrush, Prickly Lettuce, Carpet Vervain, Sowthistle

#### Silicon

Spearleaf Mountain Dandelion

#### Skin treatment

Kochia, Common Mallow

#### Sweat promoting

Carpet Vervain, Yarrow, Sagebrush, Bindweed

#### **Tropine**

Bindweed

#### **Tylenol**

Yarrow

#### **Urination help**

General: Dandelion

#### Decrease Flow:Kochia

Increase Flow: Prickly Lettuce,

Quackgrass

#### Uterus

Shepherd's Purse

#### Vascular system

Yarrow

#### Vasodilator

Shepherd's Purse

#### Vomit

Russian Orach, Rabbitbrush, Bindweed, Prostrate Knotweed

## Health Warnings:

#### Poisonous plants:

Bur Buttercup, Purple Milkvetch, Slim Larkspur

#### **Plants with Calcium Oxalate:**

Amaranthaceae—Beet Family, Russian Orach, Lambsquarters, Russian Thistle, Red Goosefoot

#### **Plants Containing Nitrate**

If overly chemical fertilized: Russian Orach, Kochia, Common Mallow Potentially: Tansy Mustard

#### **Plants Containing Saponins**

Alfalfa, Russian Orach, Lambsquarters, Red Goosefoot

#### **Plants Containing Thujone**

Yarrow

#### Pollen allergy sensitive plants:

Annual Bur-sage, Five-horn Smotherweed, Sagebrush, Povertyweed, Crested Wheatgrass, Johnsongrass,

#### Plants with Risk of Ergotism

Rye, Quackgrass, Johnsongrass, Cheatgrass, Big Squirrelltail

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Sunbutter	114 38 ,52,78 36,130 00,123 ,75 ,75 ,75 ,24 .10,71 ,9,52 ,9,52 ,17 ,10 ,23 ,17 ,40 ,23 ,40 ,23 ,40 ,23 ,40 ,23 ,40 ,23 ,40 ,40 ,23 ,40 ,40 ,23 ,40 
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